Annex 1

Cartographies

This annex is a collection of raw analysis and it's presented just a reference to the back-end work of this project. Therefore we advise using cartographies, charts and graphs from the main report, not from this annex, for decision making purposes. For best reference, you can also e-mail us at spin@spinunit.eu for the GIS cartographies.

Metrics

Number of Lines

This metric corresponds to the number of lines that pass through a stop during the weekdays of the week of Oct 7, 2019.

This was calculated using GTFS data. The GTFS data was merged such that stop times and stop information was related (via trips and routes). From there, for each stop's subset of this merged data, the number of lines was calculated as the length of all unique route_ids.

Data Source/Provider: GTFS
Date: Oct 7, 2019

Mean: 4.70
25 - 50 - 75: 2 - 3 - 6
Minimum - Maximum: 1 - 129

Number of Reachable Selected Mobility Hubs

This metric corresponds to the number of selected mobility hubs reached *directly* from a stop during the weekdays of the week of Oct 7, 2019. Selected mobility hubs consist of Hobujaama, Estonia, Balti Jaam, Lennujaam, Kristiine, Haabersti, Vabaduse Väljak, Bussijaam, Harbor, Tondi.

The GTFS data was merged like it was for Number of Lines. For each stop, we extracted a subset of the merged data. If any of the contingent stops of the mobility hubs above could be reached directly via a shared route, it was considered reachable.

Data Source/Provider: GTFS
Date: Oct 7, 2019

Mean: 2.54
25 - 50 - 75: 0 - 3 - 4
Minimum - Maximum: 0 - 9

Multimodality

This metric corresponds to the number of unique modes of transport departing from a stop during the weekdays of the week of Oct 7, 2019.

Each of these modes is considered distinct: (Bus) City line operated by a public service contract, (Bus) Commercial city line, (Bus) County commercial line, (Bus) County line served by a public service contract, (Bus) Long distance and international line, Tram line, Troll line, Ferry line, Train line.

This was calculated by merging the GTFS data and calculating the length of unique route_colours (modes) for the stop's subset.

Data Source/Provider: GTFS
Date: Oct 7, 2019

Mean: 1.38
25 - 50 - 75: 1 - 1 - 2
Minimum - Maximum: 1 - 4

Frequency of Trips

This metric corresponds to a stop's total number of departures, across all modes, during the weekdays of the week of Oct 7, 2019.

This was calculated as the number of times the stop's stop_id appeared in the merged dataset, the composition of which is described under Number of Lines.

Data Source/Provider: GTFS
Date: Oct 7, 2019

Mean: 883.76
25 - 50 - 75: 50 - 235 - 1020
Minimum - Maximum: 5 - 9685

Average Departure Delay

This metric corresponds to a stop's average departure delay in minutes for the weekdays of the week of Oct 7, 2019.

The Thorebi and Ridango data were merged. The date strings were then converted into datetime objects so that delay could be calculated (actual departure minus planned departure). This metric was then calculated as the average of these delays from the stop in question for all departures between Oct 7 and Oct 11 (weekdays of the week of Oct 7, 2019).

Data Source/Provider: Thorebi + Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 1.029
25 - 50 - 75: 0.74 - 1.3 - 2.07
Minimum - Maximum: -392.27 - 9.57

Delayed Departure Percentage

This metric corresponds a stop's percentage of trips that were delayed (with a 1 minute tolerance) during the weekdays of the week of Oct 7, 2019.

The same list of delays used to calculate Average Departure Delay for a particular stop was used to calculate this metric. This metric is the percentage of these delays that were greater than the tolerance (1 minute in both directions).

Data Source/Provider: Thorebi + Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 68.92
25 - 50 - 75: 56.29 - 70 - 82.93
Minimum - Maximum: 0 - 100

Metrics

On Time Departure Percentage

This metric corresponds to a stop's percentage of trips that were on time (1 minute tolerance) during the weekdays of the week of Oct 7, 2019.

The same list of delays used to calculate Average Departure Delay for a particular stop was used to calculate this metric. This metric is the percentage of these delays that were fell within the tolerance (1 minute in both directions).

Data Source/Provider: Thorebi + Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 31.08
25 - 50 - 75: 17.07 - 30 - 43.71
Minimum - Maximum: 0 - 100

Total Delay

This metric corresponds to a stop's total delay, in minutes, during the weekdays of the week of Oct 7, 2019.

The same list of delays used to calculate Average Departure Delay for a particular stop was used to calculate this metric. This metric is the sum of those delays.

Data Source/Provider: Thorebi + Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 250.42
25 - 50 - 75: 30 - 119.36 - 336.36
Minimum - Maximum: -12917 - 4357

Regional bus operators (Tallinn municipal transit excluded): (aka Main + Local Line Load)

This metric corresponds to a stop's total weekday person load of departures on both local lines (lines contained within municipal borders) and main lines (county lines that cross municipal borders) for all weekdays during the entirety of October, 2019. A subset of the dataset was extracted for each unique stop_code. This metric is the sum of the total monthly weekday average for both the main line load and local line load for each stop_code.

Data Source/Provider: Ridango
Date: Oct 2019, average of all work week days

Mean: 351
25 - 50 - 75: 9 - 40 - 169
Minimum - Maximum: 1 - 25403

Local Line Load Percentage

This metric corresponds to a stop's percentage of Local + Main Line Load, defined above, that was specifically from local lines for all of the weekdays during the entirety of October, 2019.

This was calculated trivially as the percentage of Local Line Load from Main + Local Line Load.

Data Source/Provider: Ridango
Date: Oct 2019, average of all work week days

Mean: 19.34
25 - 50 - 75: 0 - 0 - 10.37
Minimum - Maximum: 0 - 100

Main Line Load Percentage

This metric corresponds to a stop's percentage of Local + Main Line Load, defined above, that was specifically from local lines for all of the weekdays during the entirety of October 2019.

This was calculated trivially as the percentage of Main Line Load from Main + Local Line Load.

Data Source/Provider: Ridango
Date: Oct 2019, average of all work week days

Mean: 80.66
25 - 50 - 75: 89.63 - 100 - 100
Minimum - Maximum: 0 - 100

Tallinn municipal transit (bus+tram+trolley): (Card + Driver Check Ins)

This metric corresponds to a stop's total number of checkins made via card and directly to the driver during weekdays of the week of Oct 7, 2019.

The dataset was filtered for weekdays using the day_code column. With that subset, a subset for each unique stop_code was created, and for each of those, the total number of card check ins and driver tickets sold (driver check ins) were calculated as this metric.

Data Source/Provider: Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 1192.29
25 - 50 - 75: 95.50 - 360 - 1354
Minimum - Maximum: 0 - 24396

Metrics

Card Check Ins Percentage

This metric corresponds to a stop's percentage of Card + Driver Check Ins, defined above, that were specifically made via card during the weekdays of the week of Oct 7, 2019.

This was calculated trivially as the percentage of Card Check Ins from Card + Driver Check Ins.

Data Source/Provider: Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 99.40
25 - 50 - 75: 99.52 - 99.92 - 100
Minimum - Maximum: 78.95 - 100

Driver Check Ins Percentage

This metric corresponds to a stop's percentage of Card + Driver Check Ins, defined above, that were specifically made directly to the driver during the weekdays of the week of Oct 7, 2019.

This was calculated trivially as the percentage of Driver Check Ins from Card + Driver Check Ins.

Data Source/Provider: Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 0.60
25 - 50 - 75: 0 - 0.08 - 0.48
Minimum - Maximum: 0 - 21.05

Population

This metric corresponds to the total population within a given buffer from a stop. The populations of the following age subgroups were also calculated: 0-14, 15-64, 65 and over.

This metric was calculated by creating a buffer (100, 500 and 1000m) around a stop and storing the number of population units (1km by 1km) from the census that intersected with the buffer, summing all of the intersecting populations values -- the total, as well as the aforementioned subgroups.

Data Source/Provider: Census
Date: 2011

For 100m buffer:
Mean: 2475.90
25 - 50 - 75: 32 - 326 - 2542
Maximum: 37237

Building Count

This metric corresponds to the total number of buildings within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 1000m) around a stop and counting the number of building polygons within it.

Data Source/Provider: EHR (Ehitisregister)
Date: 14.01.2030

For 100m buffer:
Mean: 7.66
25 - 50 - 75: 1 - 4 - 10
Maximum: 126

Built SQM

This metric corresponds to the amount of built area, in sq. metres, within a given buffer from a stop. The built area in sq. metres was also calculated for the following building type subgroups: residential, non-residential, transport, industrial / warehouse, accommodation /catering, commercial /service, office, entertainment, education, health / other public.

This metric was calculated by creating a buffer (100, 500, and 1000m) around a stop and summing the total built SQM (in total as well as for each of the aforementioned subgroups) of the buildings located within it.

Data Source/Provider: EHR (Ehitisregister)
Date: 14.01.2030

For 100m buffer:
Mean: 4764
25 - 50 - 75: 66.2 - 884.7 - 4320.6
Maximum: 196614.8

Visits Count

This metric refers to the total number of Foursquare visits within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 100m) around a stop and summing the the total number of Foursquare visits located within it.

Data Source/Provider: Qualitative observations from Foursquare
Date: 200

For 100m buffer:
Mean: 3761.70
25 - 50 - 75: 0 - 9 - 755
Maximum: 245843

Metrics

Places Count

This metric corresponds to the total number of Foursquare locations within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 100m) around a stop and summing the the total number of Foursquare places located within it..

Data Source/Provider: Qualitative analysis from Foursquare
Date: 2020

For 100m buffer:
Mean: 8.91
25 - 50 - 75: 0 - 1 - 5
Maximum: 270

Optional Activities Count

This metric corresponds to the total number of optional Foursquare activities within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 100m) around a stop and summing the the total number of optional Foursquare activities located within it..

Data Source/Provider: Qualitative analysis from Foursquare
Date: 2020

For 100m buffer:
Mean: 4.79
25 - 50 - 75: 0 - 0 - 2
Maximum: 215

Necessary Activities Count

This metric corresponds to the total number of necessary Foursquare activities within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 100m) around a stop and summing the the total number of necessary Foursquare activities located within it..

Data Source/Provider: Qualitative analysis from Foursquare
Date: 2020

For 100m buffer:
Mean: 2.92
25 - 50 - 75: 0 - 0 - 2
Maximum: 74

Optional Activities Visits Count

This metric corresponds to the total number of visits to optional Foursquare activities within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 100m) around a stop and summing the the total number of visits to optional Foursquare activities located within it.

Data Source/Provider: Qualitative analysis from Foursquare
Date: 2020

For 100m buffer:
Mean: 2345.53
25 - 50 - 75: 0 - 0 - 151
Maximum: 205063

Necessary Activities Visits Count

This metric corresponds to the total number of visits to necessary Foursquare activities within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 1000m) around a stop and summing the the total number of visits to necessary Foursquare activities located within it.

Data Source/Provider: Qualitative analysis from Foursquare
Date: 2020

For 100m buffer:
Mean: 1209.99
25 - 50 - 75: 0 - 0 - 247
Maximum: 88711

Optional Activities Percentage

This metric corresponds to the percentage of activities that are optional activities within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 1000m) around a stop and calculating the percentage of Foursquare activities within it that are optional.

Data Source/Provider: Qualitative analysis from Foursquare
Date: 2020

For 100m buffer:
Mean: 39.92
25 - 50 - 75: 0.24- 27.26- 79.53
Minimum - Maximum: 0 - 100

Metrics

Necessary Activities Percentage

This metric corresponds to the percentage of activities that are necessary activities within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 1000m) around a stop and calculating the percentage of Foursquare activities within it that are optional.

Data Source/Provider: Qualitative analysis from Foursquare
Date: 2020

For 100m buffer:
Mean: 47.40
25 - 50 - 75: 4.79 - 44.93 - 89.09
Minimum - Maximum: 0 - 100

Built SQM

This metric corresponds to the amount of built area, in sq. metres, within a given buffer from a stop. The built area in sq. metres was also calculated for the following building type subgroups: residential, non-residential, transport, industrial / warehouse, accommodation /catering, commercial /service, office, entertainment, education, health / other public.

Data Source/Provider: EHR (Ehitisregister)
Date: 14.01.2030

For 100m buffer:
Mean: 4764
25 - 50 - 75: 66.2 - 884.7 - 4320.6
Maximum: 196614.8

Visits Count

This metric refers to the total number of Foursquare visits within a given buffer from a stop.

Data Source/Provider: Observations from Foursquare
Date: 200

For 100m buffer:
Mean: 3761.70
25 - 50 - 75: 0 - 9 - 755
Maximum: 245843

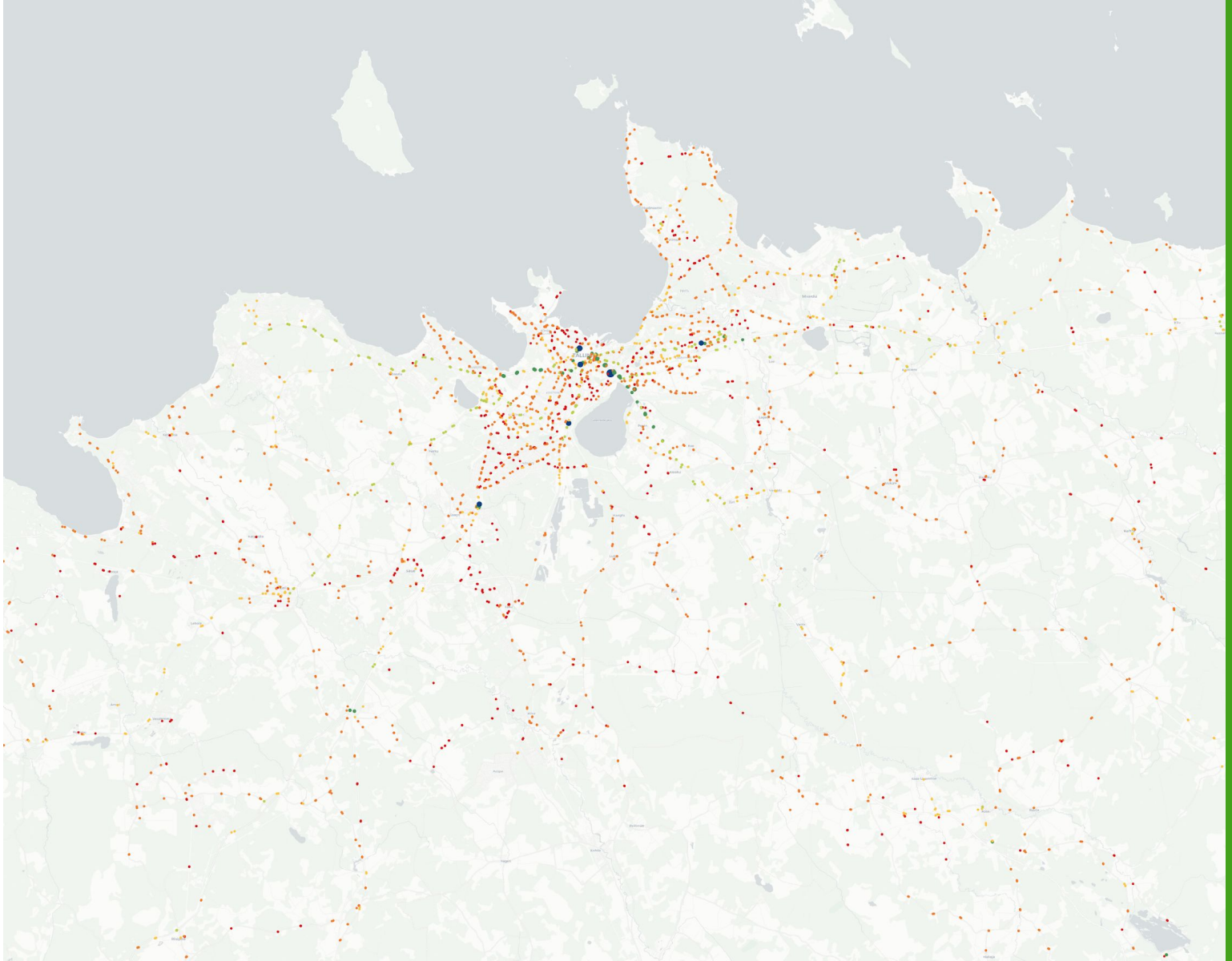
Number of Lines

This metric corresponds to the number of lines that pass through a stop during the weekdays of the week of Oct 7, 2019.

This was calculated using GTFS data. The GTFS data was merged such that stop times and stop information was related (via trips and routes). From there, for each stop's subset of this merged data, the number of lines was calculated as the length of all unique route_ids.

Data Source/Provider: GTFS
Date: Oct 7, 2019

Mean: 4.70
25 - 50 - 75: 2 - 3 - 6
Minimum - Maximum: 1 - 129



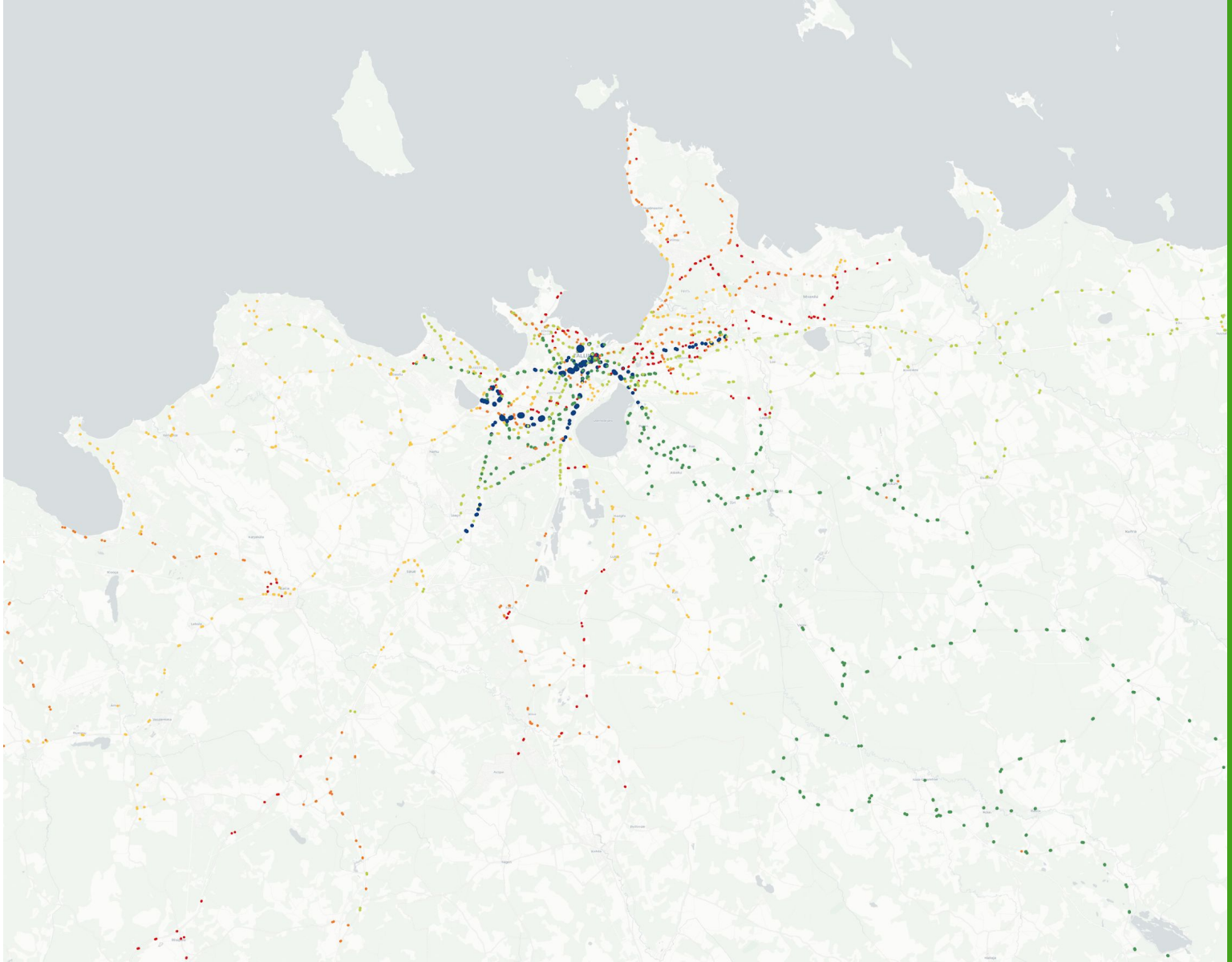
Number of Reachable Selected Mobility Hubs

This metric corresponds to the number of selected mobility hubs reached *directly* from a stop during the weekdays of the week of Oct 7, 2019. Selected mobility hubs consist of Hobujaama, Estonia, Balti Jaam, Lennujaam, Kristiine, Haabersti, Vabaduse Väljak, Bussijaam, Harbor, Tondi.

The GTFS data was merged like it was for Number of Lines. For each stop, we extracted a subset of the merged data. If any of the contingent stops of the mobility hubs above could be reached directly via a shared route, it was considered reachable.

Data Source/Provider: GTFS
Date: Oct 7, 2019

Mean: 2.54
25 - 50 - 75: 0 - 3 - 4
Minimum - Maximum: 0 - 9



Multimodality

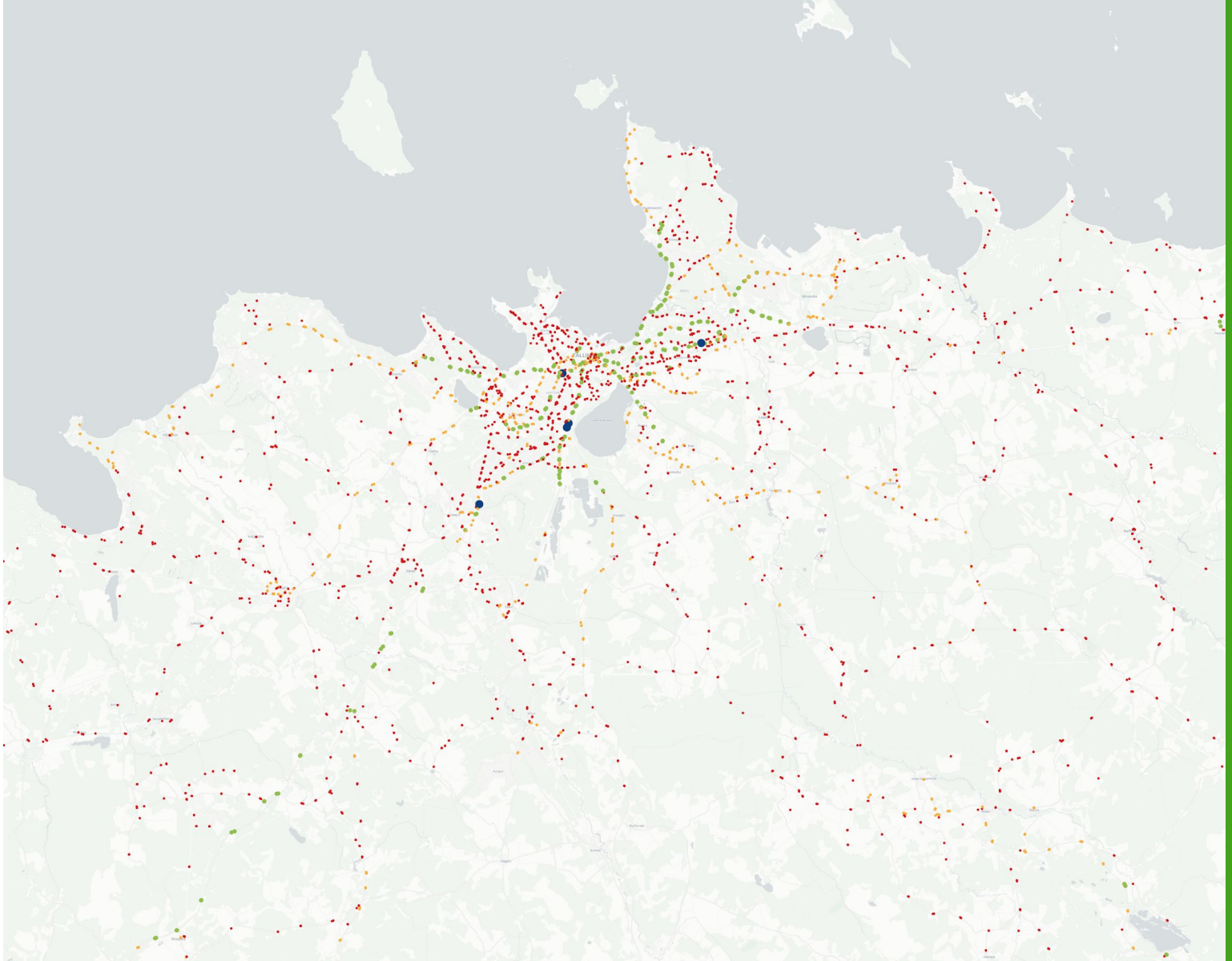
This metric corresponds to the number of unique modes of transport departing from a stop during the weekdays of the week of Oct 7, 2019.

Each of these modes is considered distinct: (Bus) City line operated by a public service contract, (Bus) Commercial city line, (Bus) County commercial line, (Bus) County line served by a public service contract, (Bus) Long distance and international line, Tram line, Troll line, Ferry line, Train line.

This was calculated by merging the GTFS data and calculating the length of unique route_colours (modes) for the stop's subset.

Data Source/Provider: GTFS
Date: Oct 7, 2019

Mean: 1.38
25 - 50 - 75: 1 - 1 - 2
Minimum - Maximum: 1 - 4



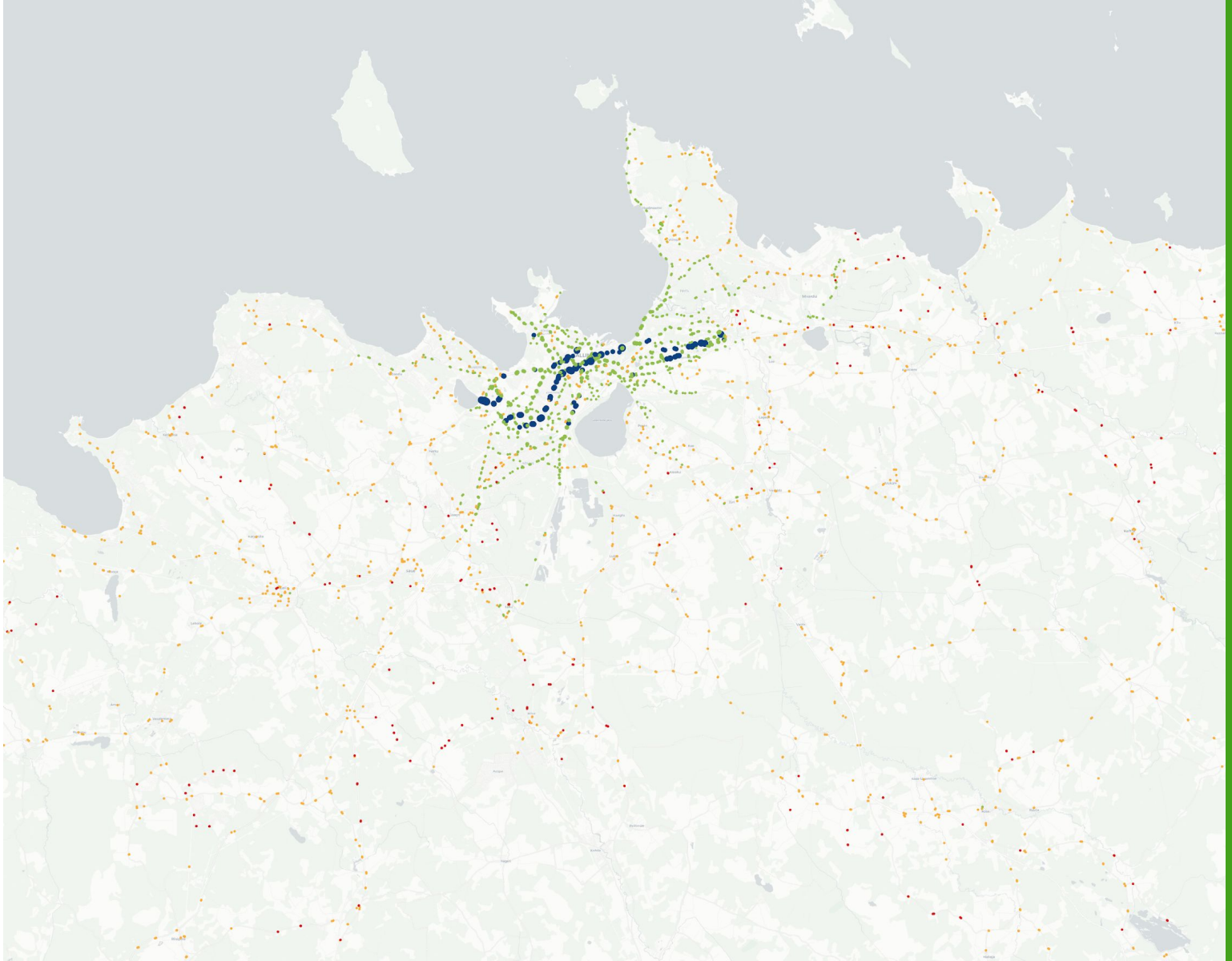
Frequency of Trips

This metric corresponds to a stop's total number of departures, across all modes, during the weekdays of the week of Oct 7, 2019.

This was calculated as the number of times the stop's stop_id appeared in the merged dataset, the composition of which is described under Number of Lines.

Data Source/Provider: GTFS
Date: Oct 7, 2019

Mean: 883.76
25 - 50 - 75: 50 - 235 - 1020
Minimum - Maximum: 5 - 9685



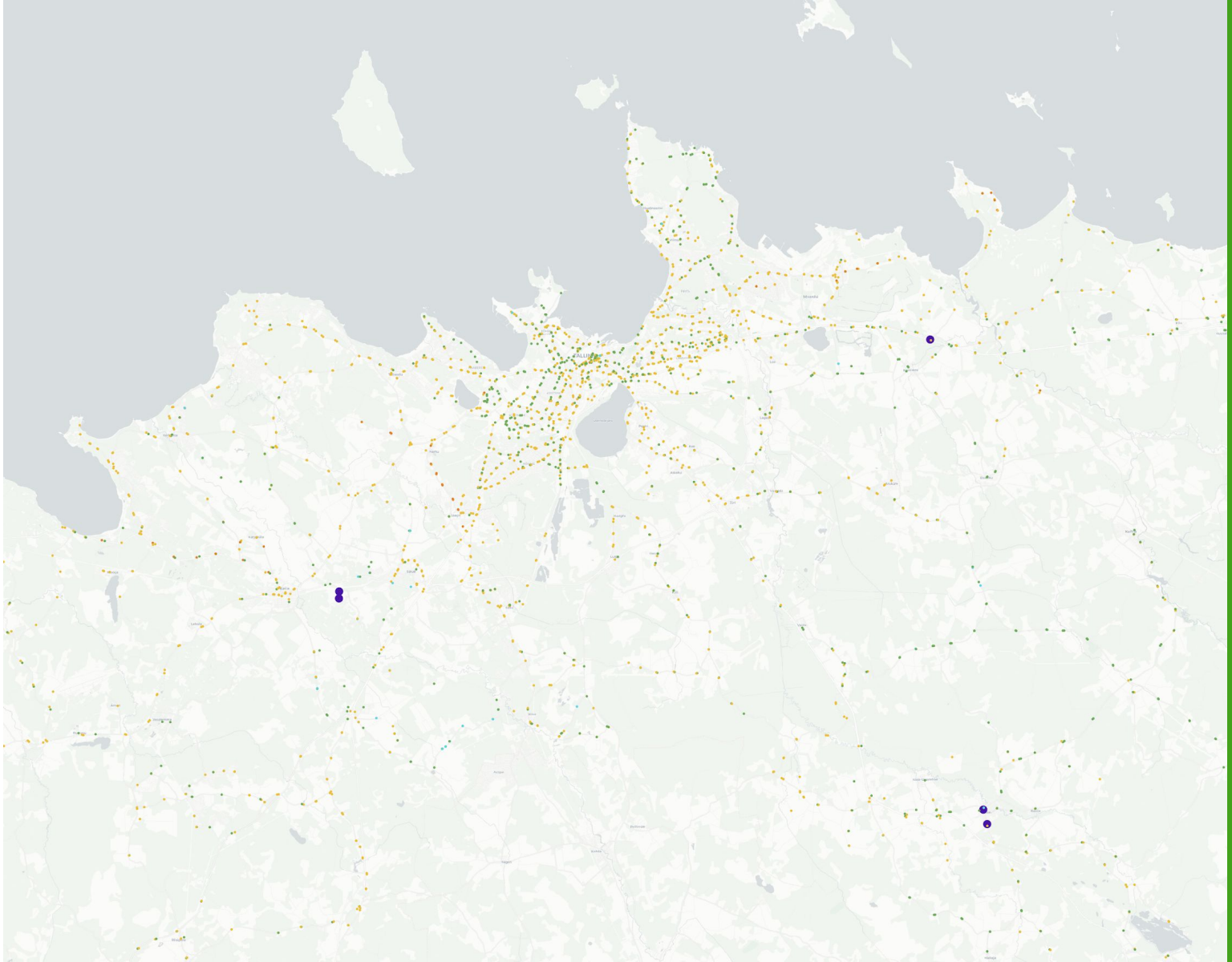
Average Departure Delay

This metric corresponds to a stop's average departure delay in minutes for the weekdays of the week of Oct 7, 2019.

The Thorebi and Ridango data were merged. The date strings were then converted into datetime objects so that delay could be calculated (actual departure minus planned departure). This metric was then calculated as the average of these delays from the stop in question for all departures between Oct 7 and Oct 11 (weekdays of the week of Oct 7, 2019).

Data Source/Provider: Thorebi + Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 1.029
25 - 50 - 75: 0.74 - 1.3 - 2.07
Minimum - Maximum: -392.27 - 9.57



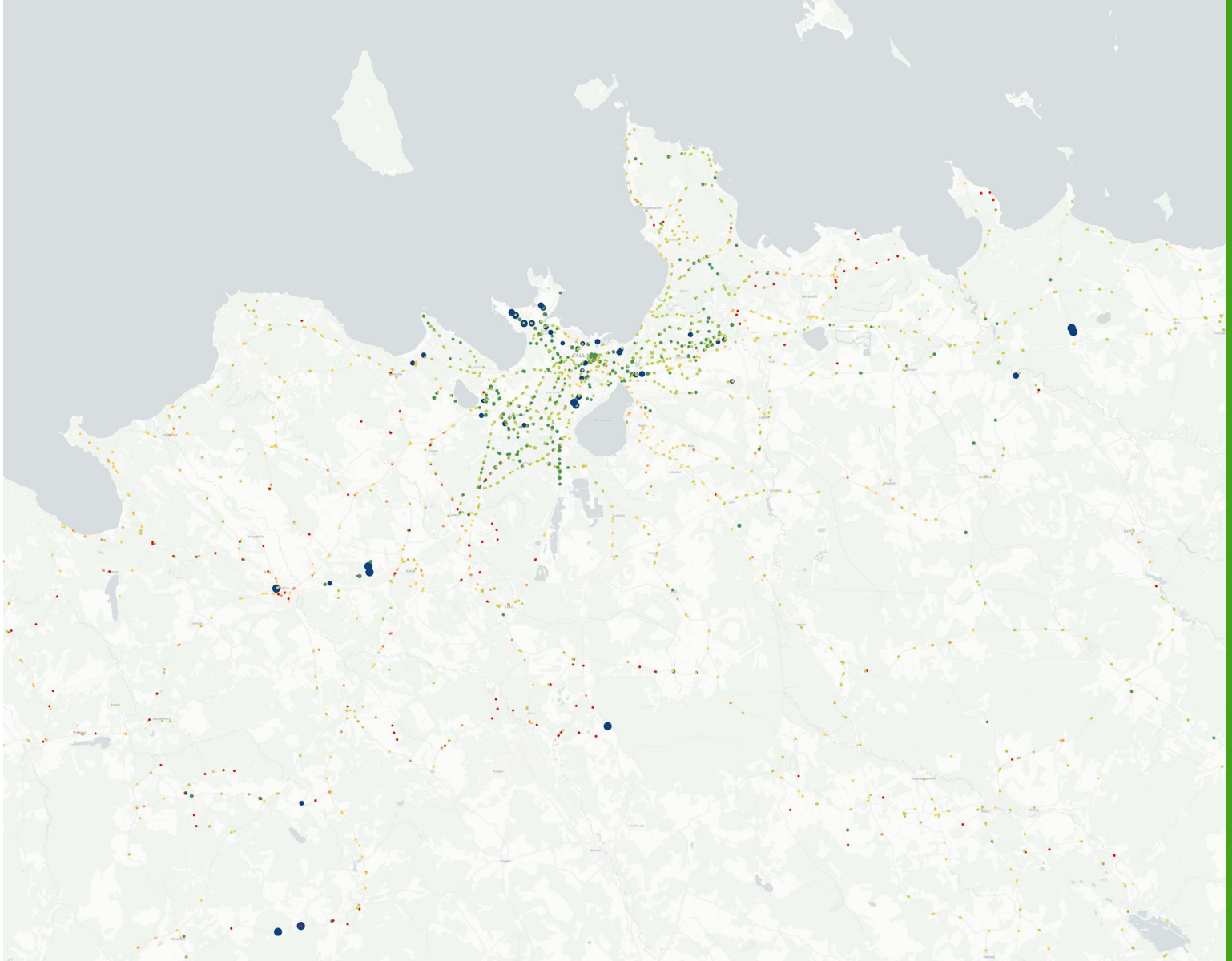
On Time Departure Percentage

This metric corresponds to a stop's percentage of trips that were on time (1 minute tolerance) during the weekdays of the week of Oct 7, 2019.

The same list of delays used to calculate Average Departure Delay for a particular stop was used to calculate this metric. This metric is the percentage of these delays that were fell within the tolerance (1 minute in both directions).

Data Source/Provider: Thorebi + Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 31.08
25 - 50 - 75: 17.07 - 30 - 43.71
Minimum - Maximum: 0 - 100



On Time Departure Percentage

- 0% - 5%
- 5% - 10%
- 10% - 25%
- 25% - 50%
- 50% - 75%
- 75% - 100%

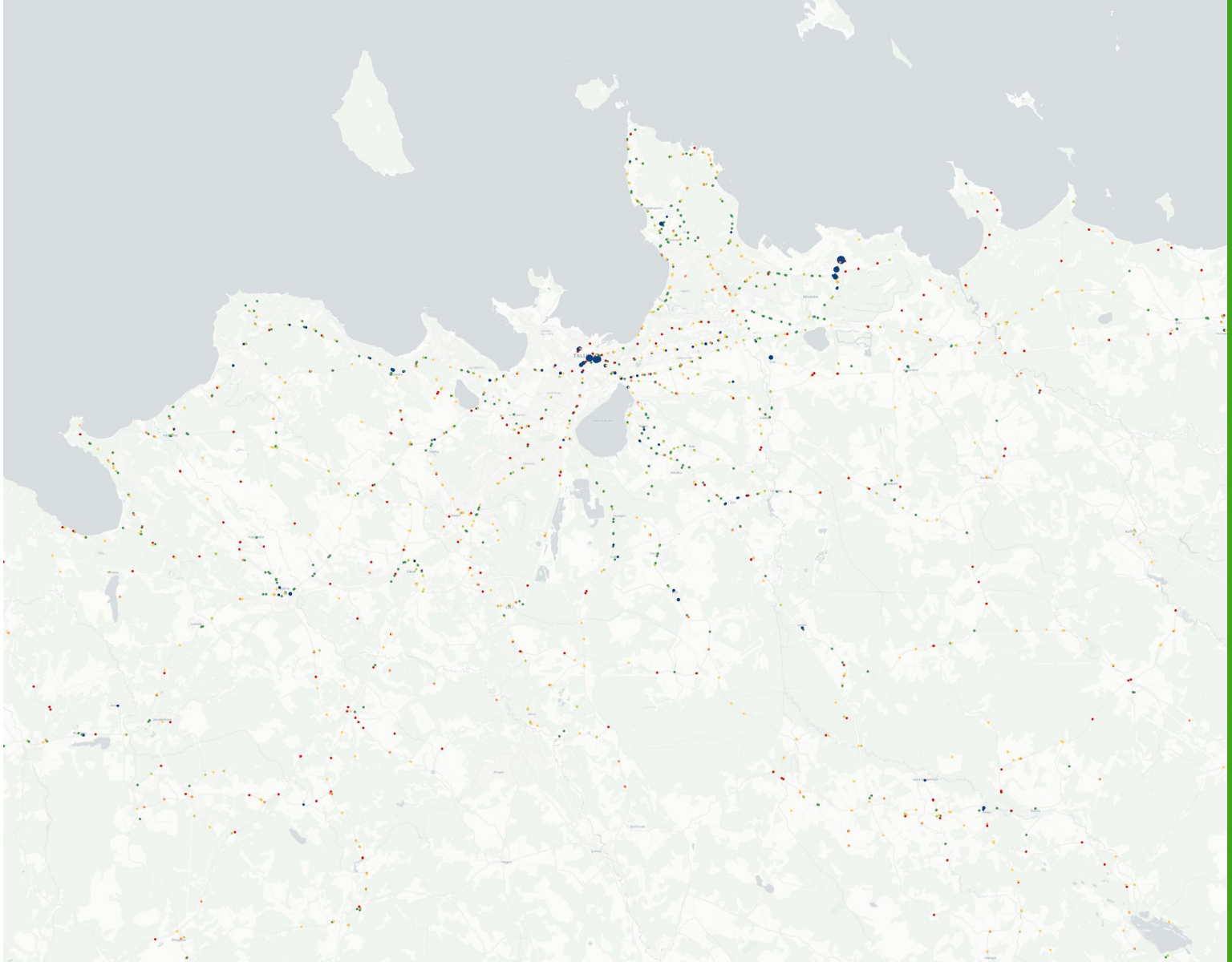
Regional bus operators (Tallinn municipal transit excluded):

(aka Main + Local Line Load)

This metric corresponds to a stop's total weekday person load of departures on both local lines (lines contained within municipal borders) and main lines (county lines that cross municipal borders) for all weekdays during the entirety of October, 2019. A subset of the dataset was extracted for each unique stop_code. This metric is the sum of the total monthly weekday average for both the main line load and local line load for each stop_code.

Data Source/Provider: Ridango
Date: Oct 2019, average of all work week days

Mean: 351
25 - 50 - 75: 9 - 40 - 169
Minimum - Maximum: 1 - 25403



Main + Local Line Load

- 0 - 5
- 5 - 10
- 10 - 50
- 50 - 100
- 100 - 1000
- 1000 - 26000

Tallinn municipal transit (bus+tram+trolley):

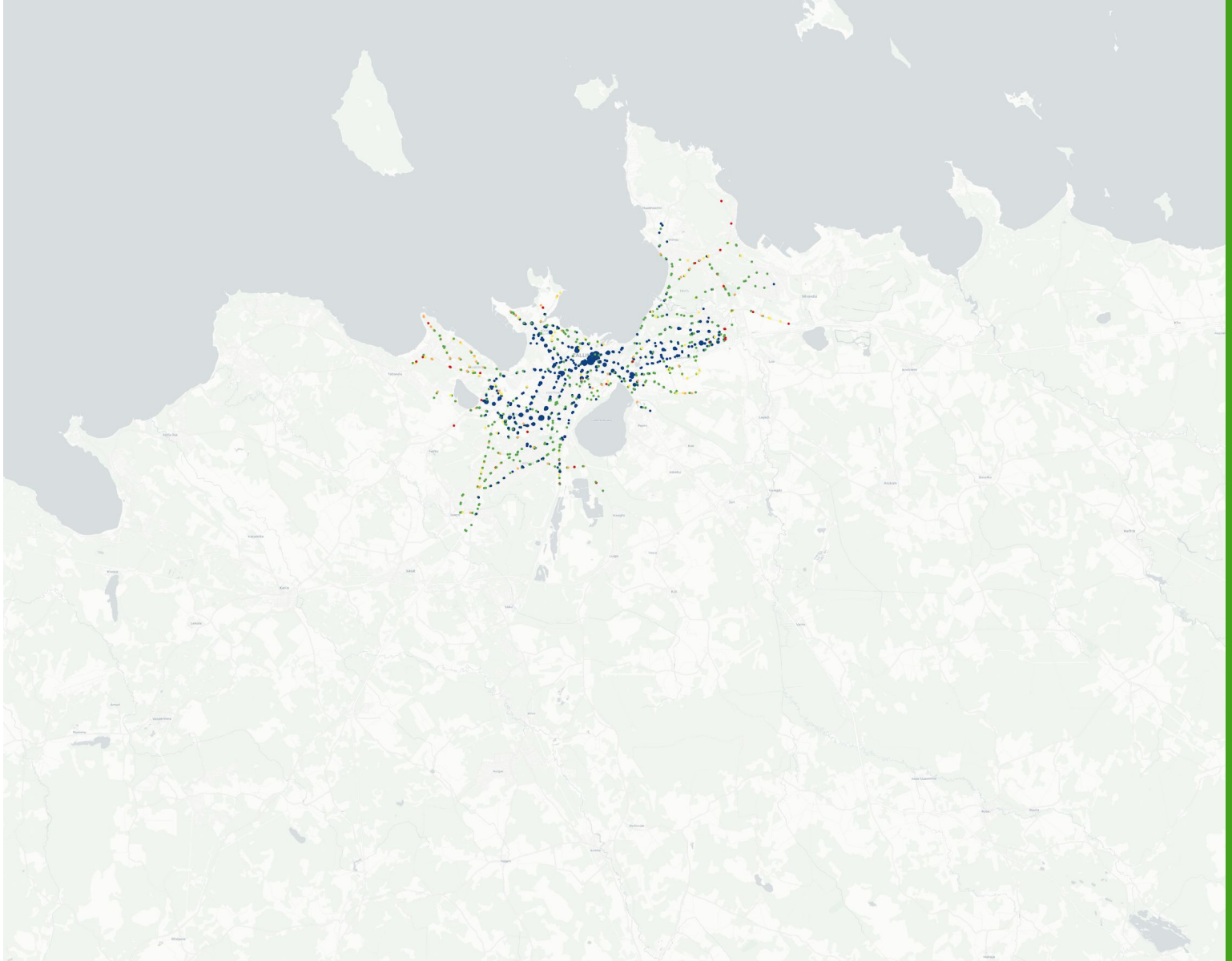
(Card + Driver Check Ins)

This metric corresponds to a stop's total number of checkins made via card and directly to the driver during weekdays of the week of Oct 7, 2019.

The dataset was filtered for weekdays using the day_code column. With that subset, a subset for each unique stop_code was created, and for each of those, the total number of card check ins and driver tickets sold (driver check ins) were calculated as this metric.

Data Source/Provider: Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 1192.29
25 - 50 - 75: 95.50 - 360 - 1354
Minimum - Maximum: 0 - 24396



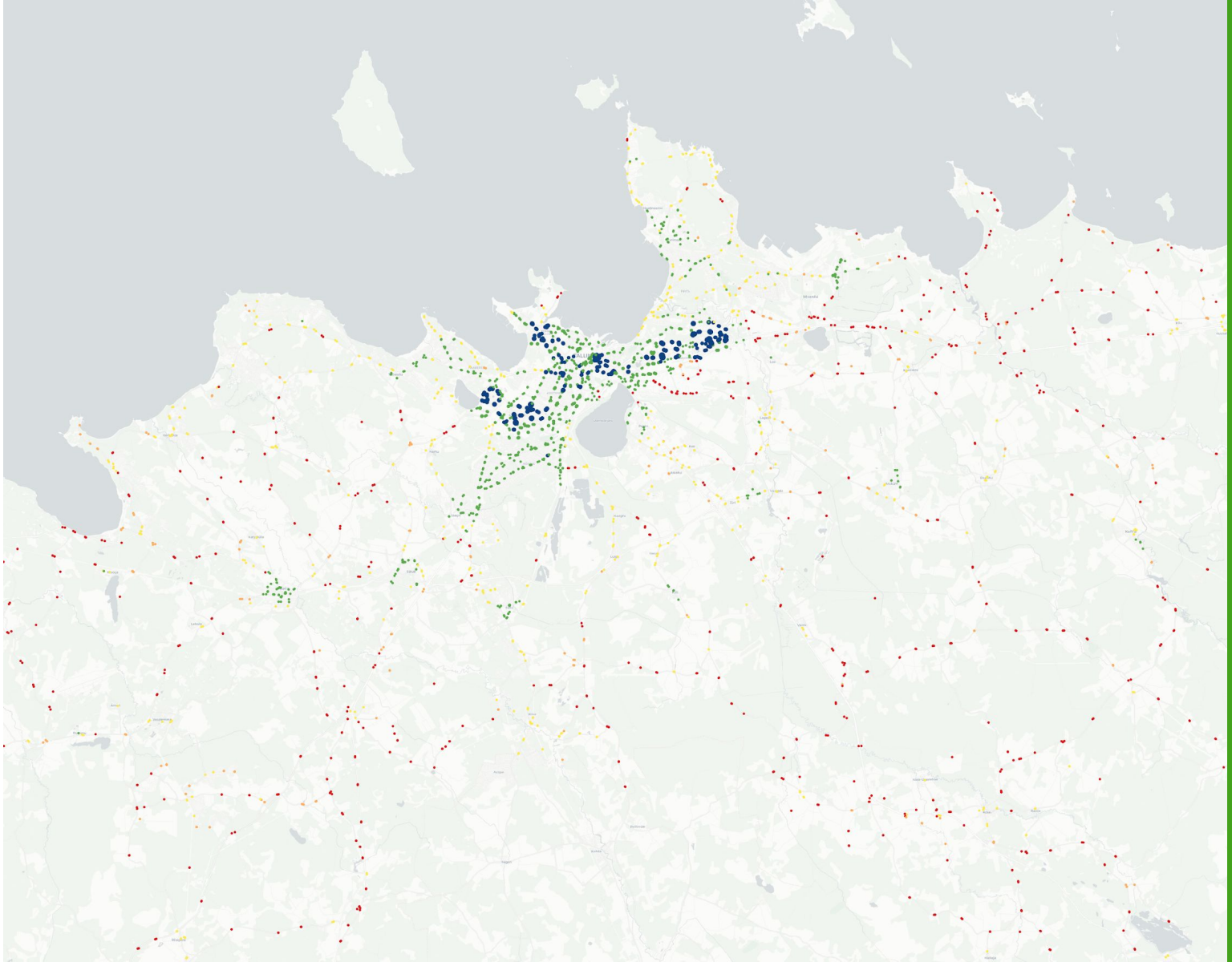
Population

This metric corresponds to the total population within a given buffer from a stop. The populations of the following age subgroups were also calculated: 0-14, 15-64, 65 and over.

This metric was calculated by creating a buffer (100, 500 and 1000m) around a stop and storing the number of population units (1km by 1km) from the census that intersected with the buffer, summing all of the intersecting populations values -- the total, as well as the aforementioned subgroups.

Data Source/Provider: Census
Date: 2011

For 100m buffer:
Mean: 2475.90
25 - 50 - 75: 32 - 326 - 2542
Maximum: 37237



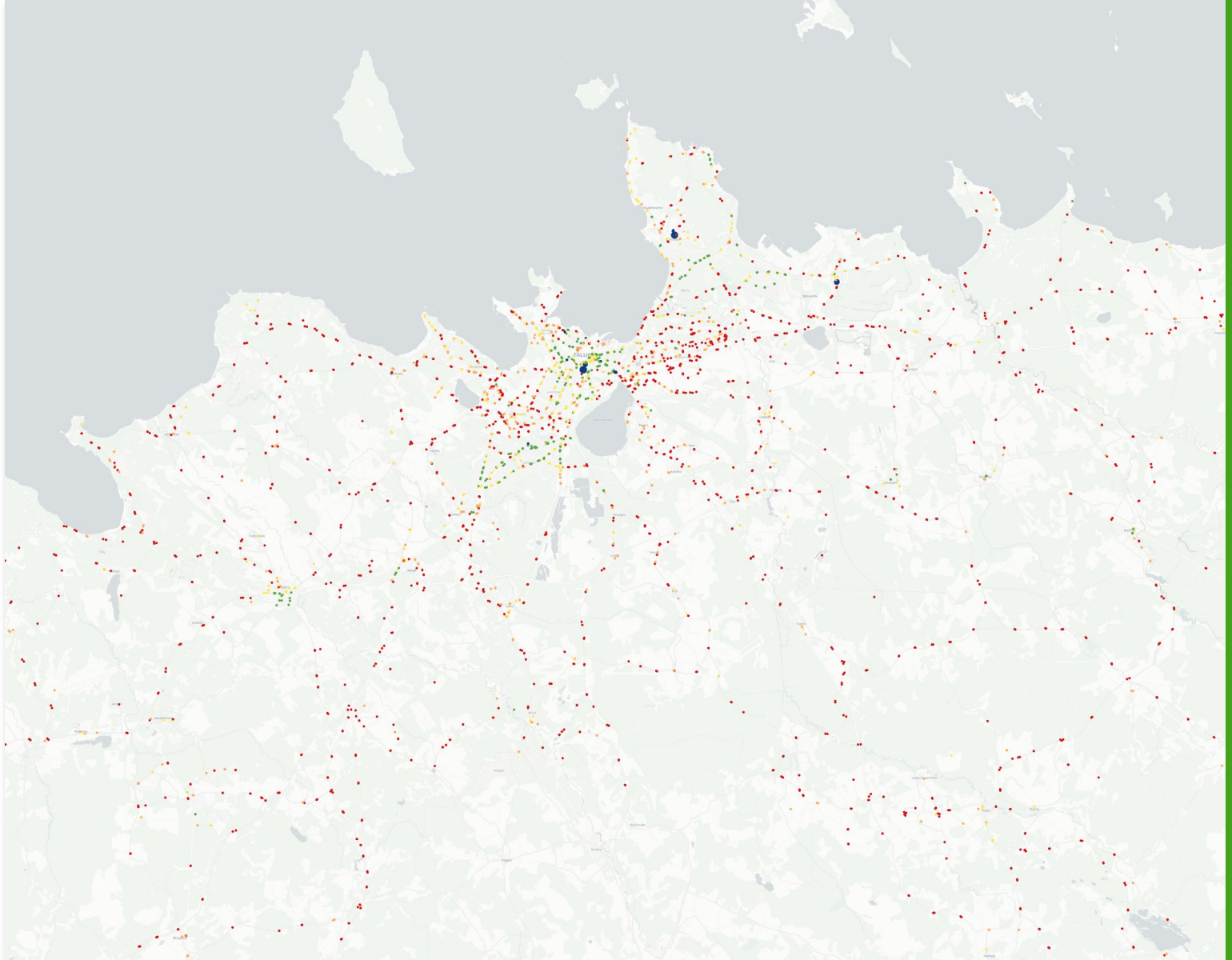
Building Count

This metric corresponds to the total number of buildings within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 1000m) around a stop and counting the number of building polygons within it.

Data Source/Provider: EHR (Ehitisregister)
Date: 14.01.2030

For 100m buffer:
Mean: 7.66
25 - 50 - 75: 1 - 4 - 10
Maximum: 126



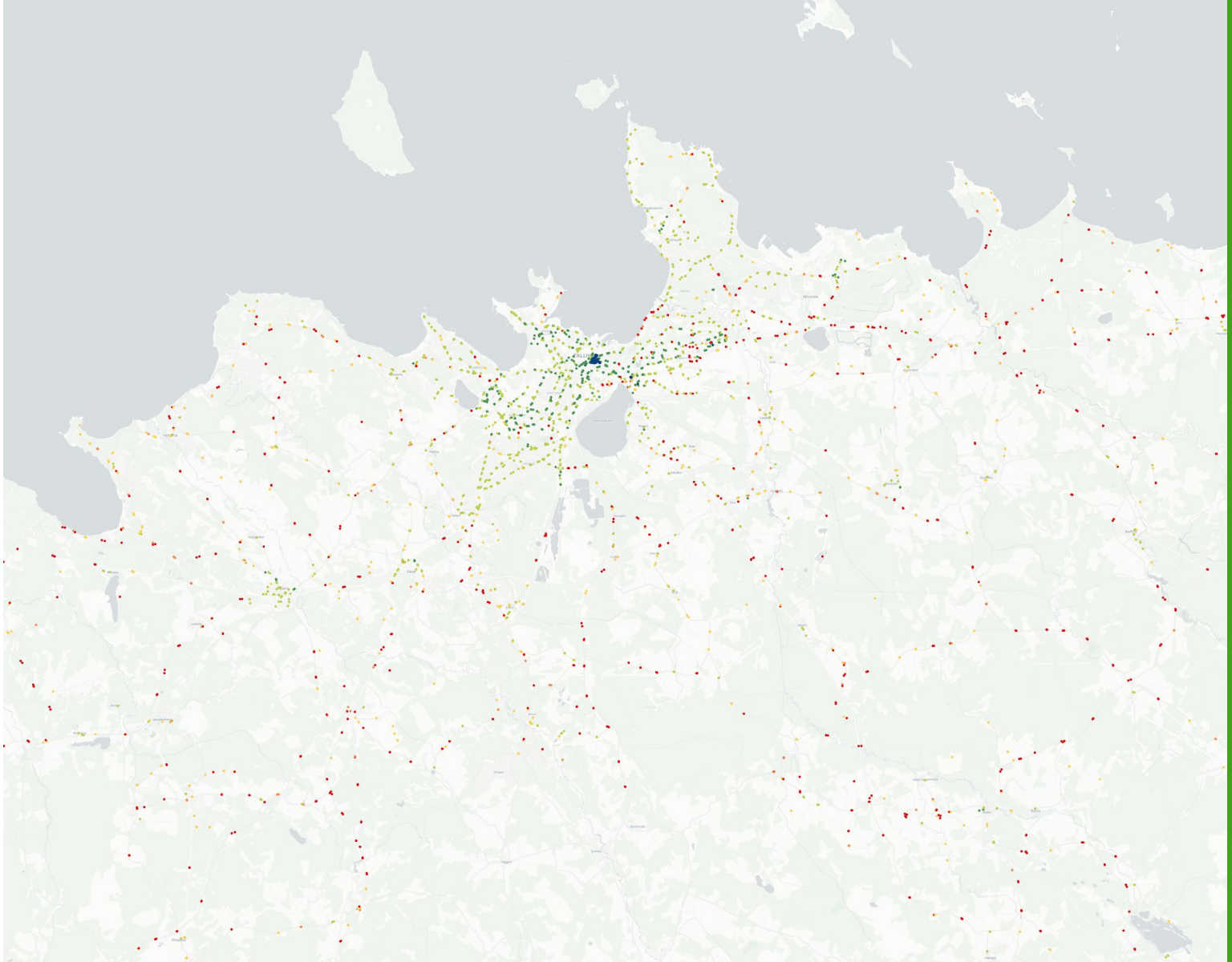
Built SQM

This metric corresponds to the amount of built area, in sq. metres, within a given buffer from a stop. The built area in sq. metres was also calculated for the following building type subgroups: residential, non-residential, transport, industrial / warehouse, accommodation /catering, commercial /service, office, entertainment, education, health / other public.

This metric was calculated by creating a buffer (100, 500, and 1000m) around a stop and summing the total built SQM (in total as well as for each of the aforementioned subgroups) of the buildings located within it.

Data Source/Provider: EHR (Ehitisregister)
Date: 14.01.2030

For 100m buffer:
Mean: 4764
25 - 50 - 75: 66.2 - 884.7 - 4320.6
Maximum: 196614.8



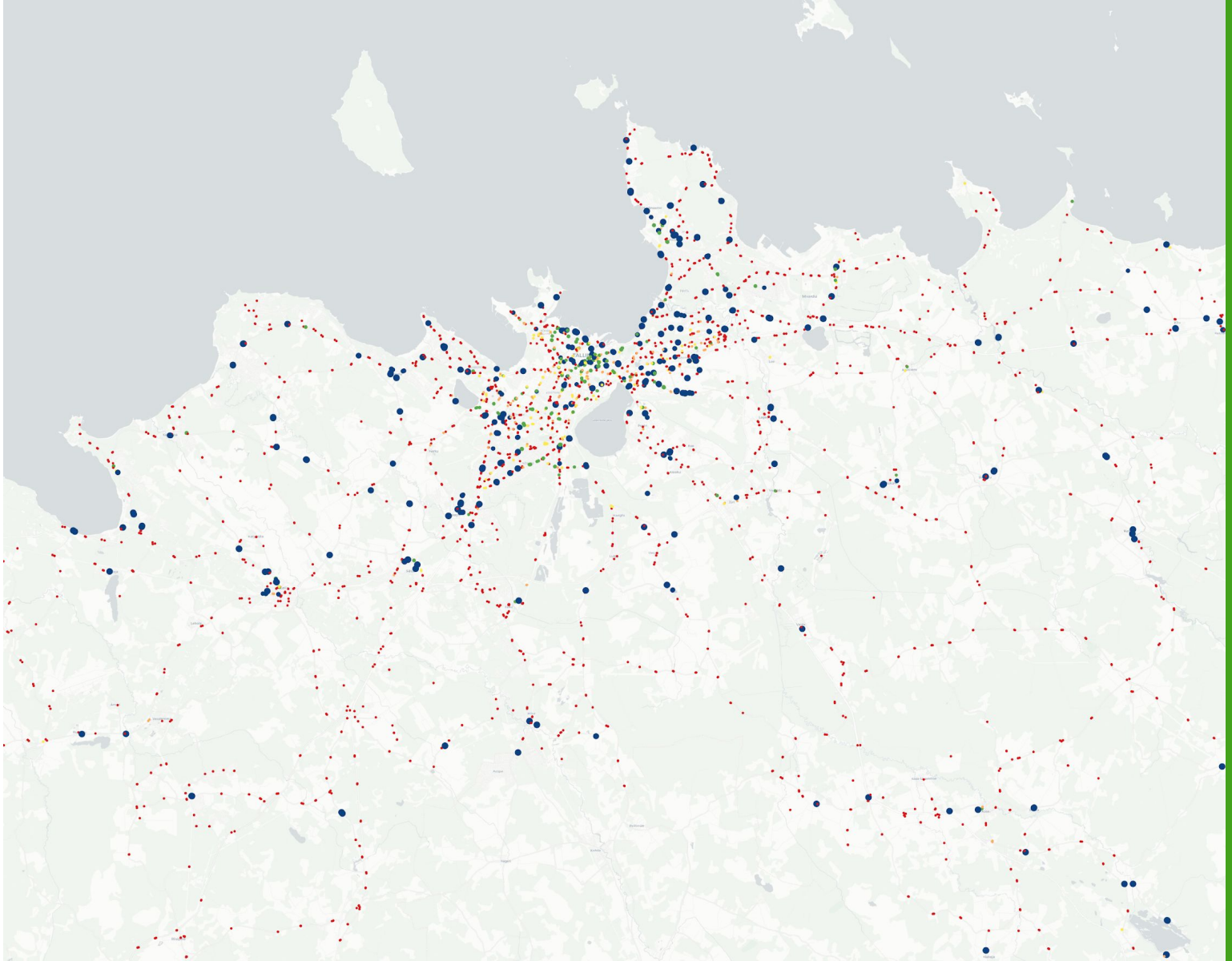
Optional Activities Percentage

This metric corresponds to the percentage of activities that are optional activities within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 1000m) around a stop and calculating the percentage of Foursquare activities within it that are optional.

Data Source/Provider: Foursquare
Date: 200

For 100m buffer:
Mean: 39.92
25 - 50 - 75: 0.24- 27.26- 79.53
Minimum - Maximum: 0 - 100



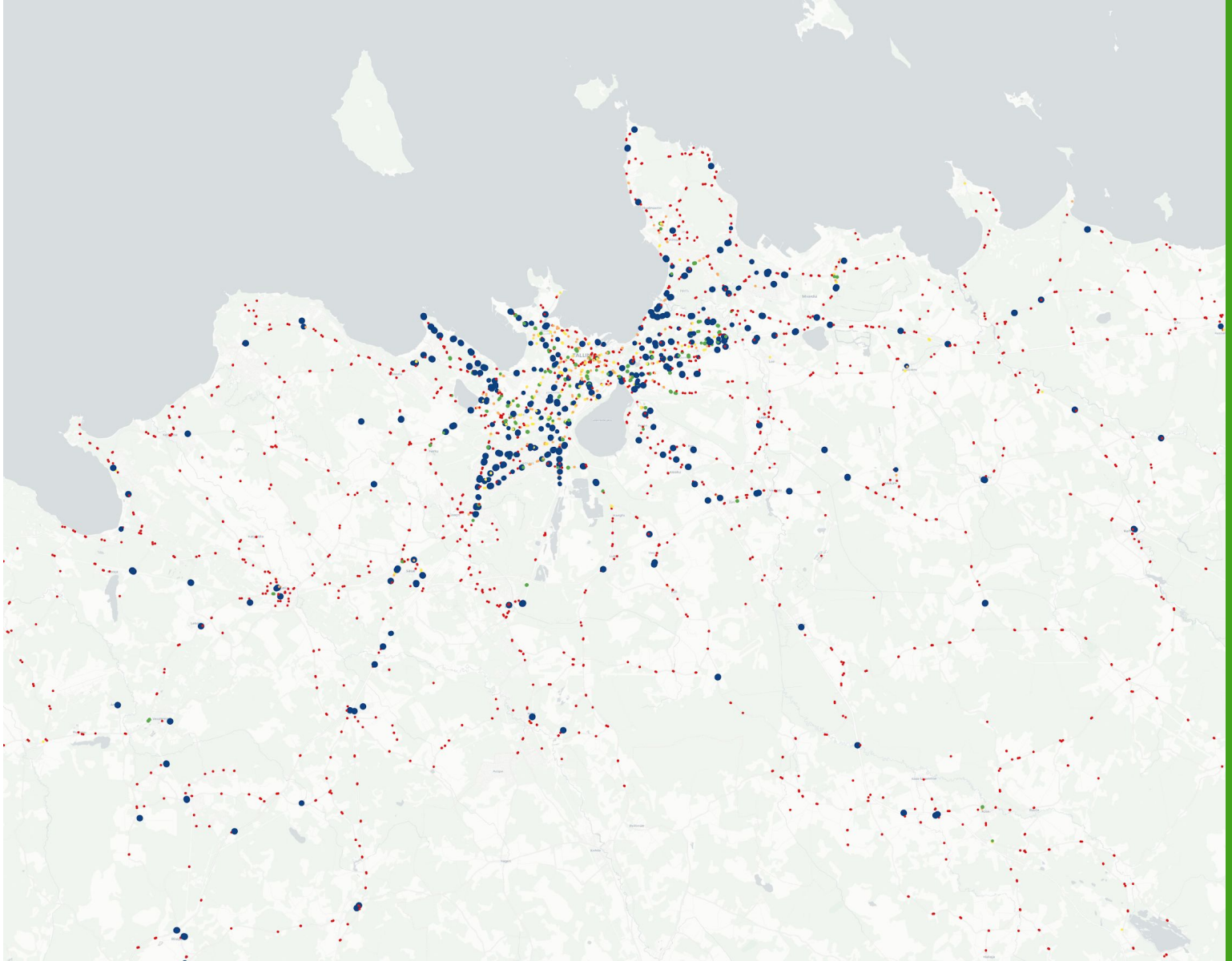
Necessary Activities Percentage

This metric corresponds to the percentage of activities that are necessary activities within a given buffer from a stop.

This metric was calculated by creating a buffer (100, 500, and 1000m) around a stop and calculating the percentage of Foursquare activities within it that are optional.

Data Source/Provider: Foursquare
Date: 200

For 100m buffer:
Mean: 47.40
25 - 50 - 75: 4.79 - 44.93 - 89.09
Minimum - Maximum: 0 - 100



Necessary Activities Percentage

- 0 - 20
- 20 - 40
- 40 - 60
- 60 - 80
- 80 - 100

Ranking

POTENTIAL DEMAND SCORE

A score between 1 and 5 for each stop signalling its relative performance (for all buffers) against the other stops with respect to their Demand, which is composed of Number of Lines, Number of Reachable Selected Mobility Hubs, and Multimodality.

For each of these constituent metrics of Demand, a quantile-based discretisation function was applied, generating 5 buckets. This score is the average of those buckets across all of the constituent metrics.

PERFORMANCE SCORE

A score between 1 and 5 for each stop signalling its relative performance (for all buffers) against the other stops with respect to their Performance, which is composed of Frequency of Trips, all of the metrics pertaining to delay, and all of the metrics pertaining to popularity.

For each of these constituent metrics of Performance, a quantile-based discretisation function was applied, generating 5 buckets. This score is the average of those buckets across all of the constituent metrics.

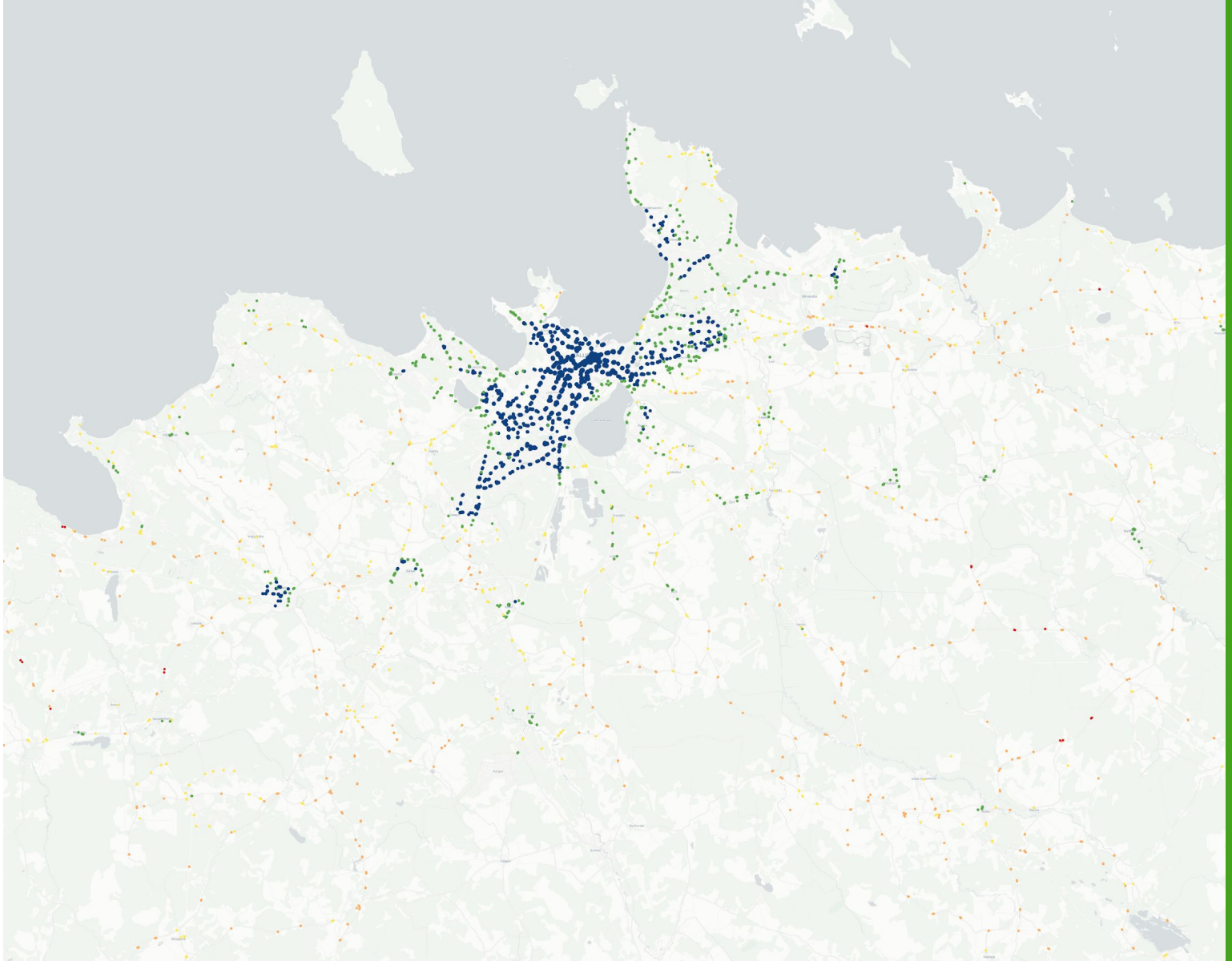
POTENTIAL DEMAND SCORE

A score between 1 and 5 for each stop signalling its relative performance (for all buffers) against the other stops with respect to their Demand, which is composed of Number of Lines, Number of Reachable Selected Mobility Hubs, and Multimodality.

For each of these constituent metrics of Demand, a quantile-based discretisation function was applied, generating 5 buckets. This score is the average of those buckets across all of the constituent metrics.

Data Source/Provider: Foursquare
Date: 200

Mean: 3
25 - 50 - 75: 1.86 - 3 - 4.1
Minimum - Maximum: 1 - 5



Demand Score

1
2
3
4
5

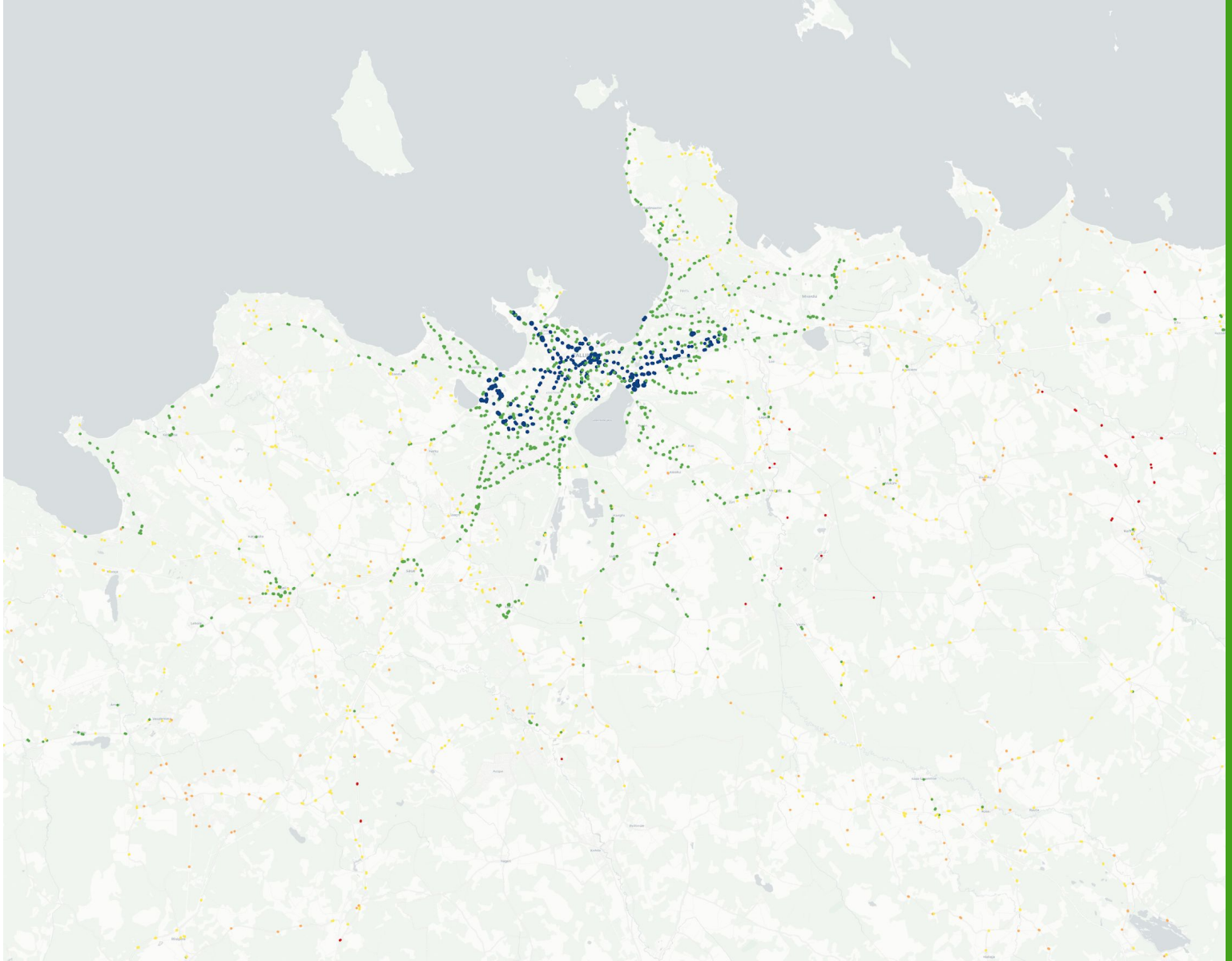
PERFORMANCE SCORE

A score between 1 and 5 for each stop signalling its relative performance (for all buffers) against the other stops with respect to their Performance, which is composed of Frequency of Trips, all of the metrics pertaining to delay, and all of the metrics pertaining to popularity.

For each of these constituent metrics of Performance, a quantile-based discretisation function was applied, generating 5 buckets. This score is the average of those buckets across all of the constituent metrics.

Data Source/Provider: Foursquare
Date: 200

Mean: 3.01
25 - 50 - 75: 2.33 - 3.10 - 3.71
Minimum - Maximum: 1 - 5



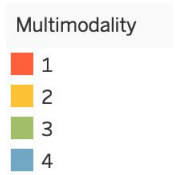
Performance Score

- 1
- 2
- 3
- 4
- 5

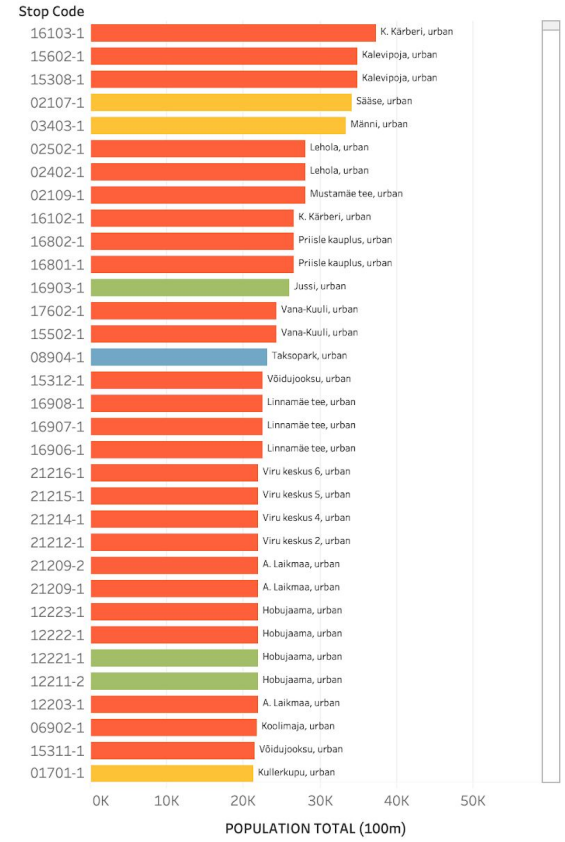
GRAPHS

2 INDICATORS

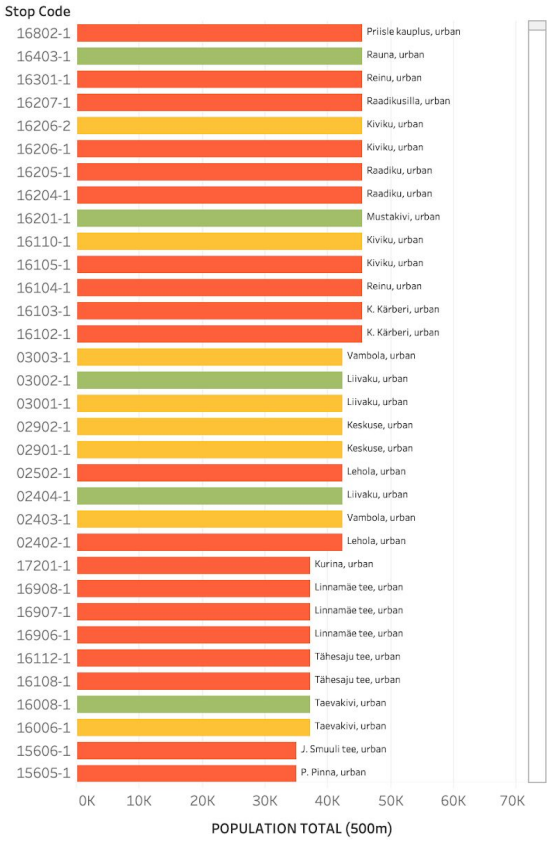
Population in surroundings



Population-100



Population-500



Population-1000

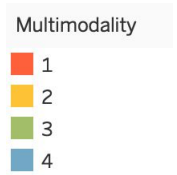


HIGHEST

SPIN UNIT DEMOS HELSINKI

2 INDICATORS

Population in surroundings



Population-100



Population-500



Population-1000

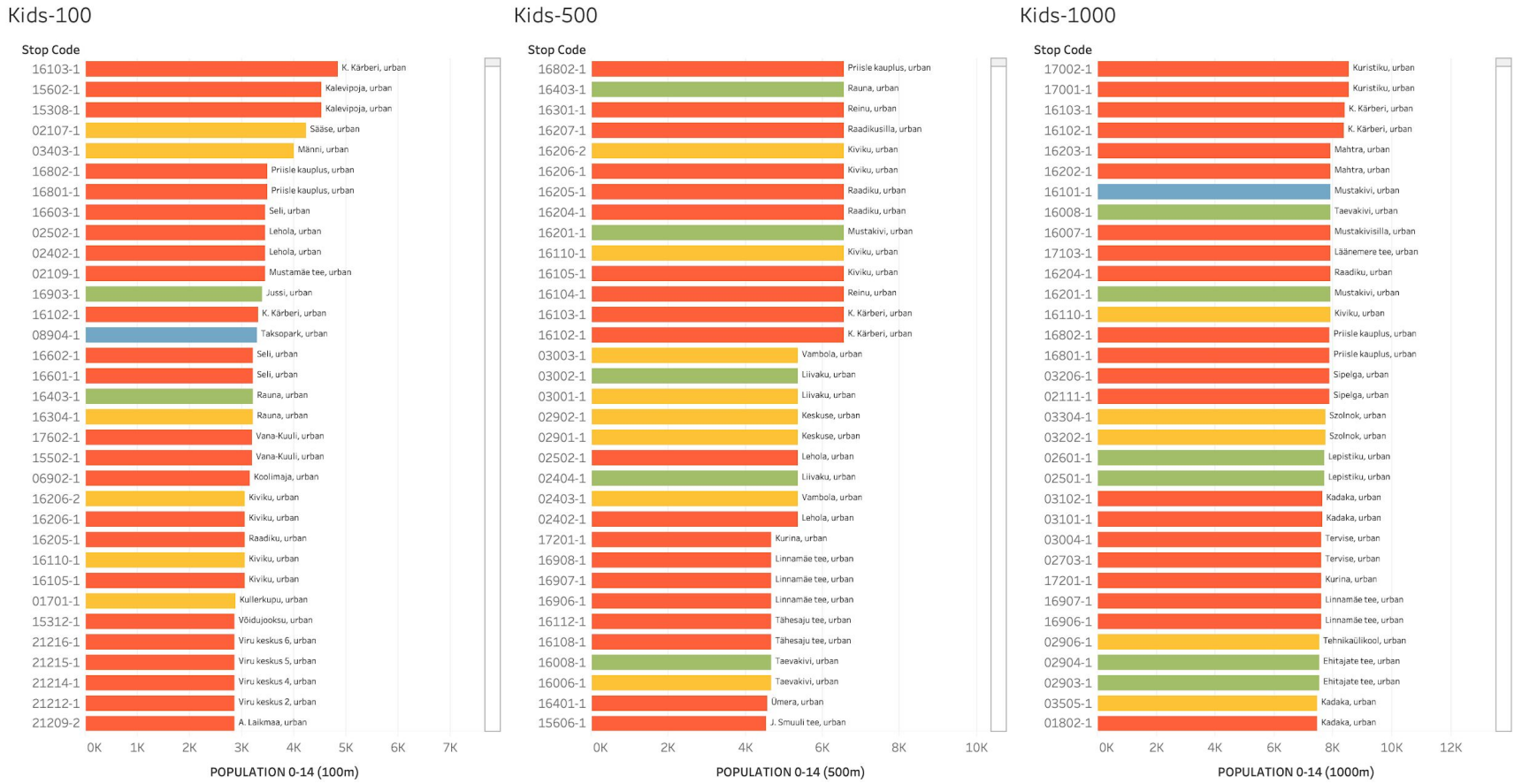


LOWEST

SPIN UNIT DEMOS HELSINKI

2 INDICATORS

Population 0-14 years old in surroundings



HIGHEST

SPIN UNIT DEMOS HELSINKI

2 INDICATORS

Population 0-14 years old in surroundings

Multimodality
1
2
3
4

Kids-100



Kids-500



Kids-1000

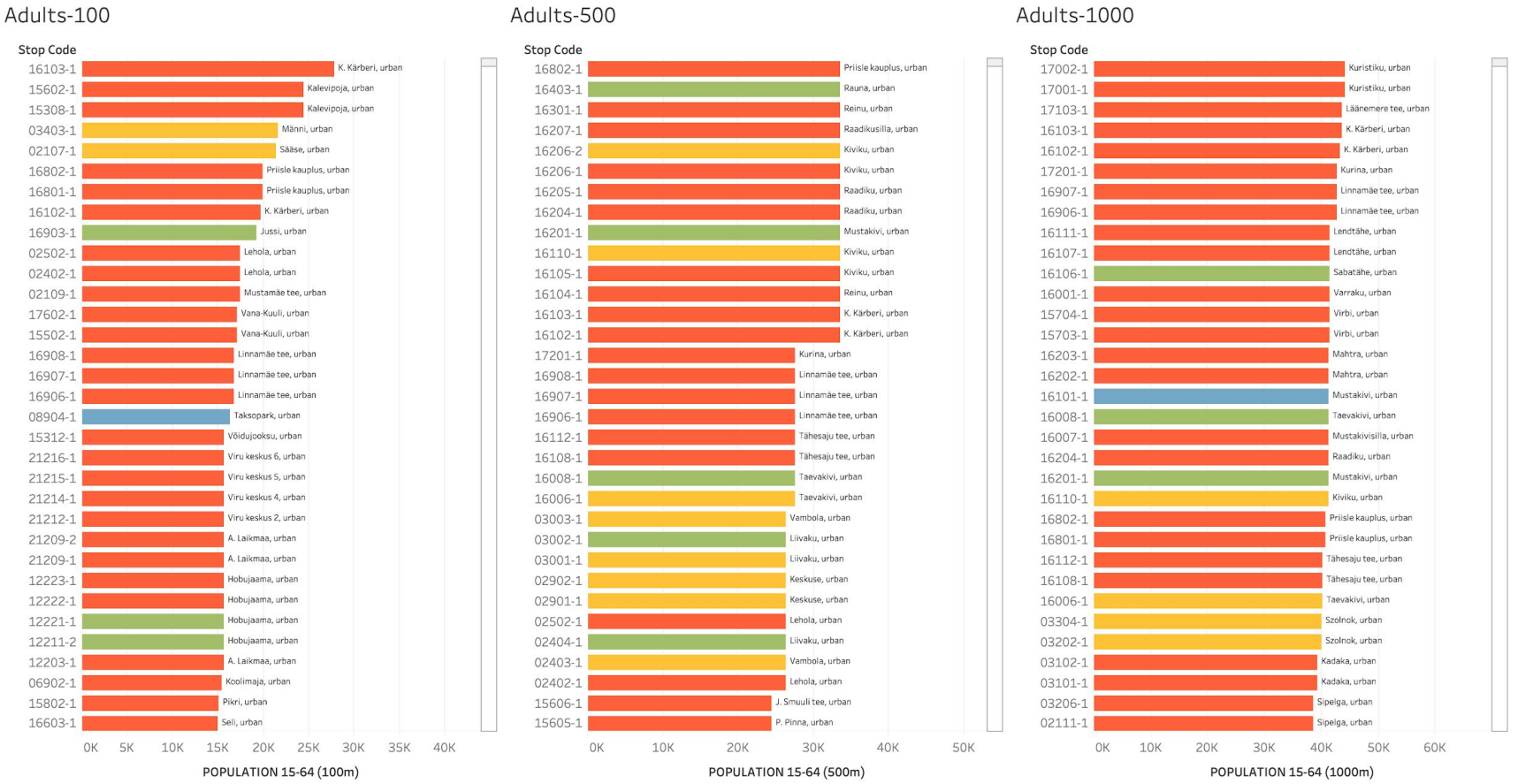


LOWEST

SPIN UNIT DEMOS HELSINKI

2 INDICATORS

Population 15-64 years old in surroundings



HIGHEST

SPIN UNIT DEMOS HELSINKI

2 INDICATORS

Population 15-64 years old in surroundings

Multimodality
1
2
3
4

Adults-100



Adults-500



Adults-1000

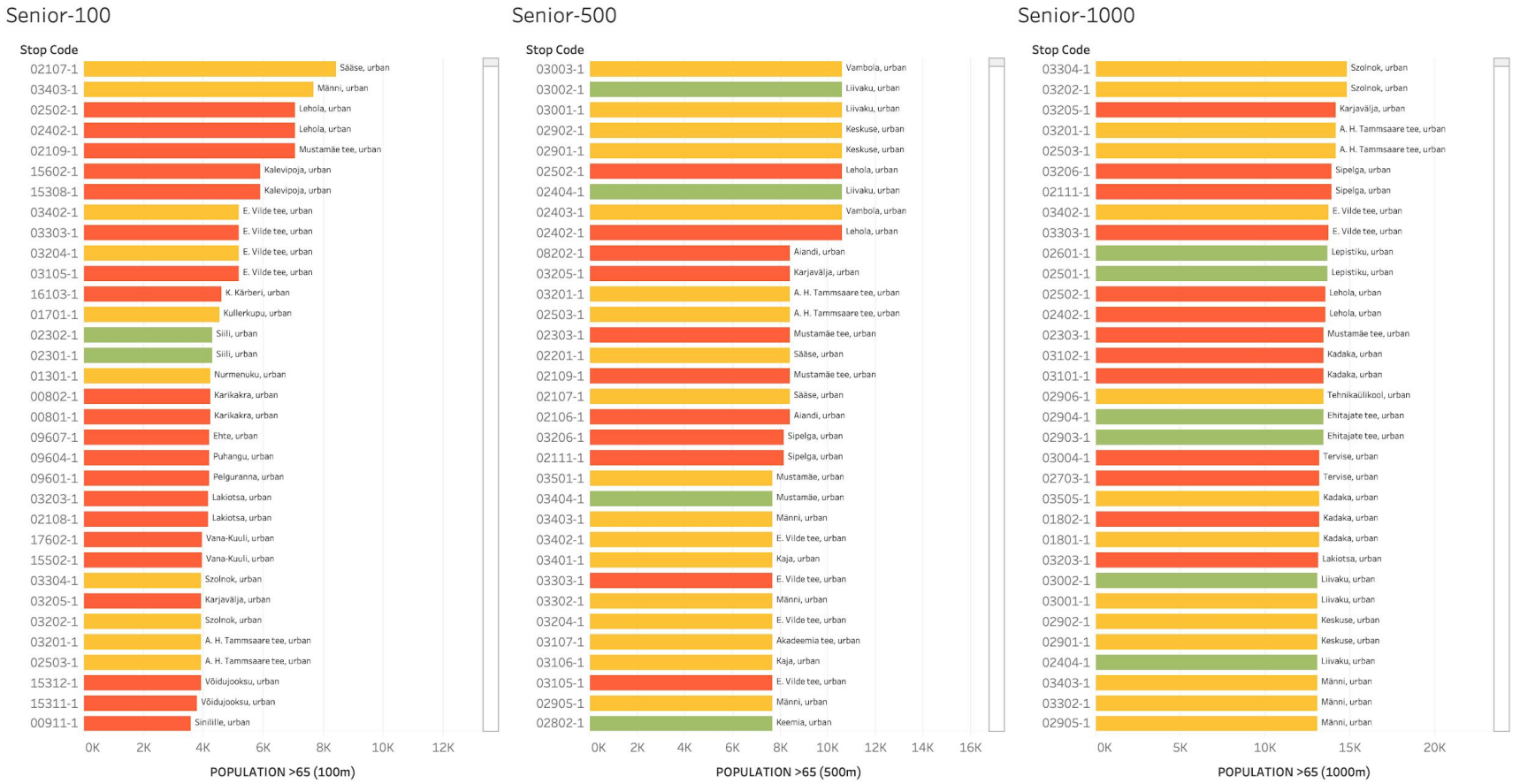


LOWEST

SPIN UNIT DEMOS HELSINKI

2 INDICATORS

Population over 65 years old in surroundings

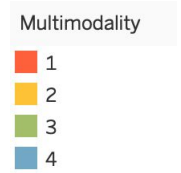


HIGHEST

SPIN UNIT DEMOS HELSINKI

2 INDICATORS

Population over 65 years old in surroundings



Senior-100



Senior-500



Senior-1000



LOWEST

SPIN UNIT DEMOS HELSINKI

2

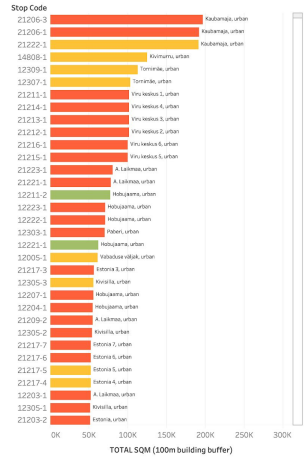
INDICATORS

SERVICE PERFORMANCE

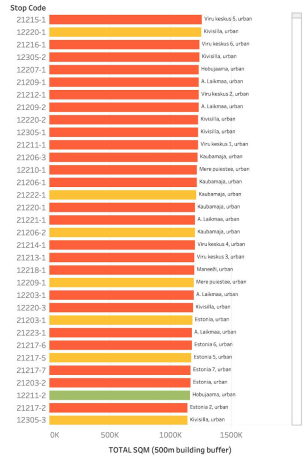
2 INDICATORS

Total Sqm: the amount of built area within a 100, 500, and 1000m buffer from a stop.

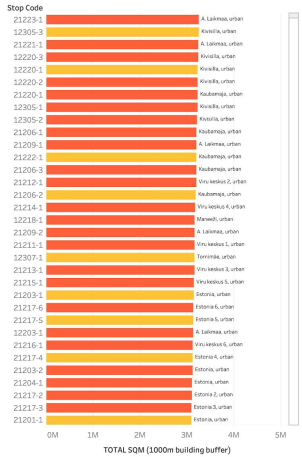
Total Sqm-100



Total Sqm-500



Total Sqm-1000



Total Sqm-500



Total Sqm-1000



Total Sqm-100



HIGHEST

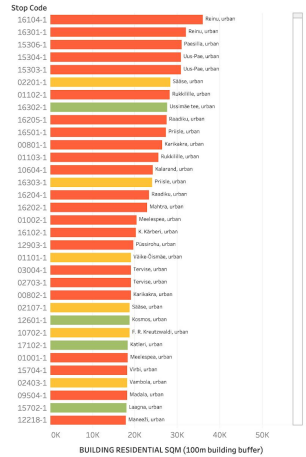
LOWEST

Multimodality
1
2
3
4

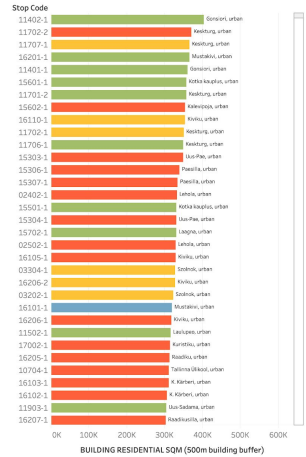
2 INDICATORS

Total Sqm (Residential): the amount of built residential area within a 100, 500, and 1000m buffer from a stop.

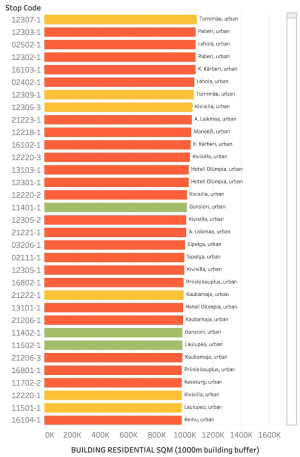
Residential Sqm-100



Residential Sqm-500



Residential Sqm-1000



Residential Sqm-100



Residential Sqm-500



Residential Sqm-1000



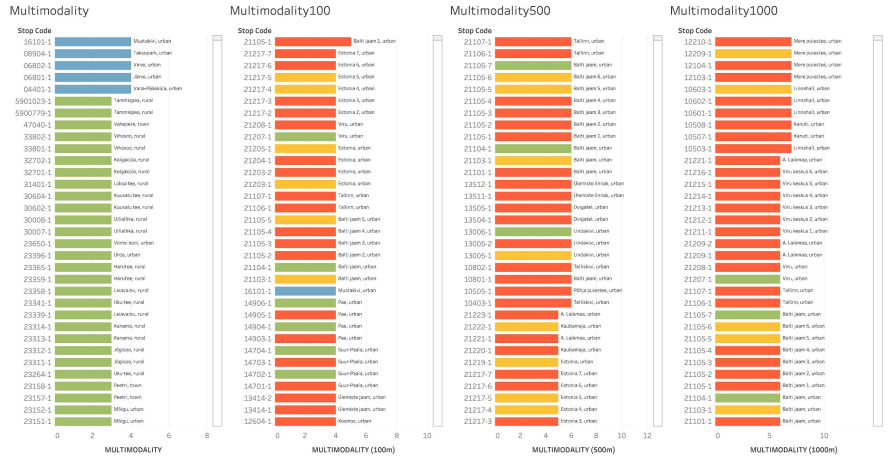
HIGHEST

LOWEST

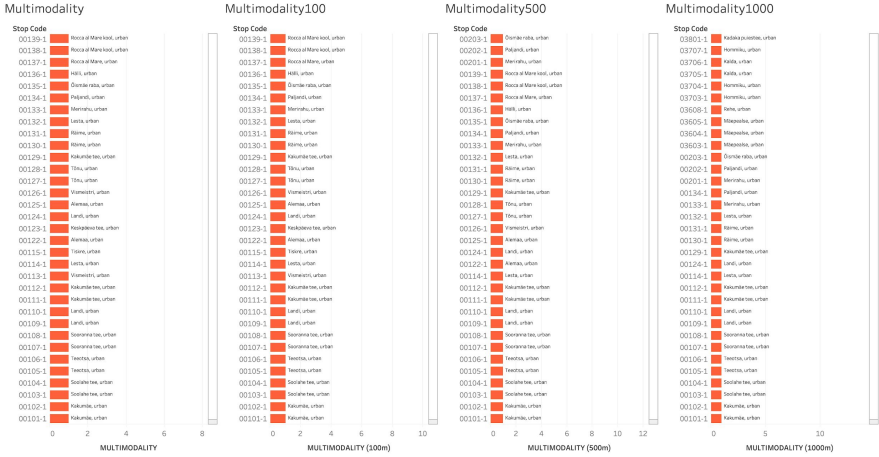
Multimodality
1
2
3
4

2 INDICATORS

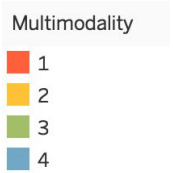
MULTIMODALITY
The number of unique modes of transport departing from a stop during the weekdays of the week of Oct 7, 2019. At the moment, the following are considered distinct modes: (Bus) City line operated by a public service contract, (Bus) Commercial city line, (Bus) County commercial line, (Bus) County line served by a public service contract, Long-distance and international lines (Bus), Tram line, Troll line, Ferry line, Train line



TOP 25%



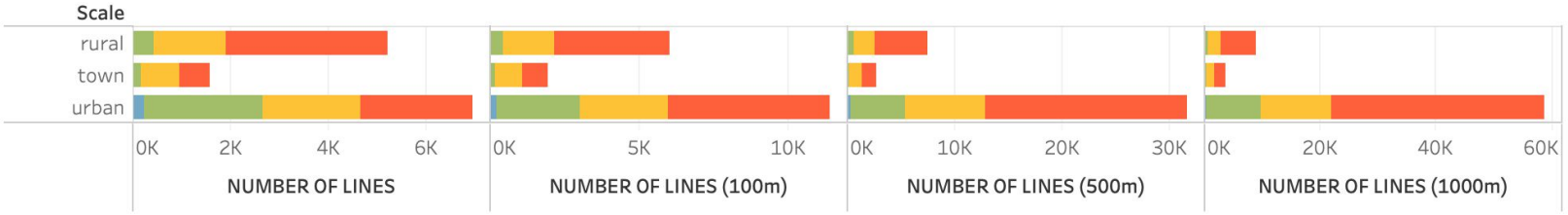
BOTTOM 25%



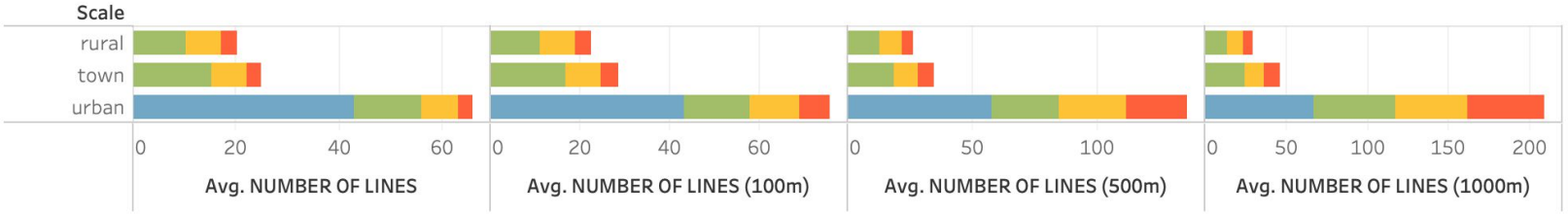
2 INDICATORS

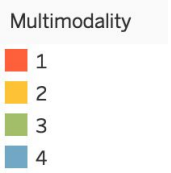
NUMBER OF LINES
The number of lines that pass through a stop during the weekdays of the week of Oct 7, 2019.

Number of Lines



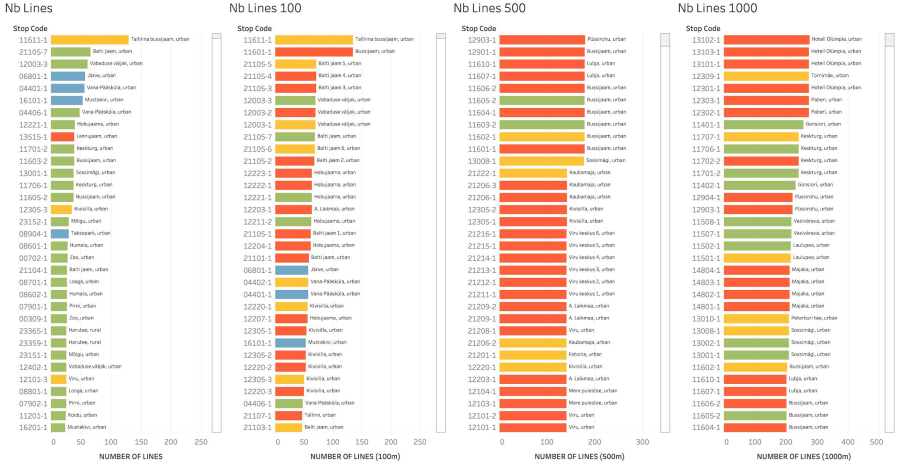
AVG Number of Lines



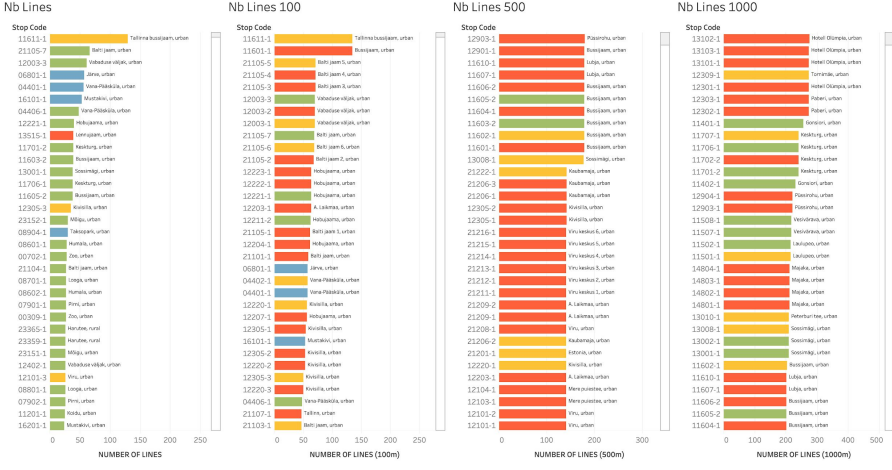


2 INDICATORS

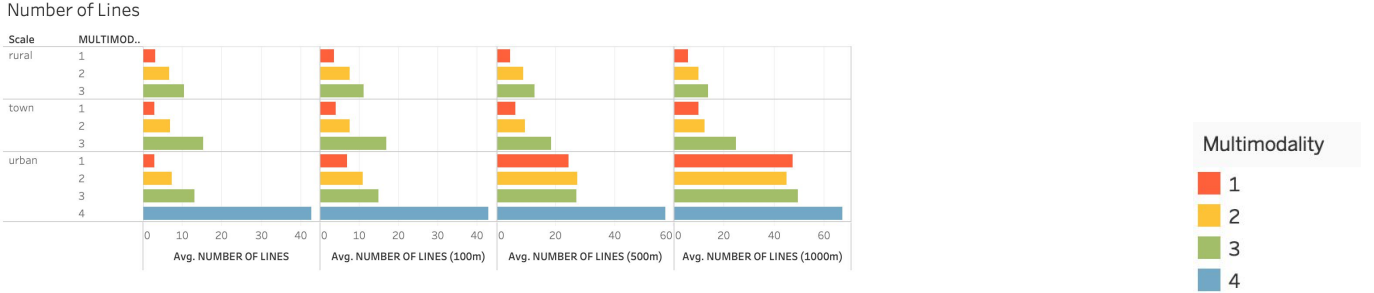
NUMBER OF LINES
The number of lines that pass through a stop during the weekdays of the week of Oct 7, 2019.



TOP 25%



BOTTOM 25%



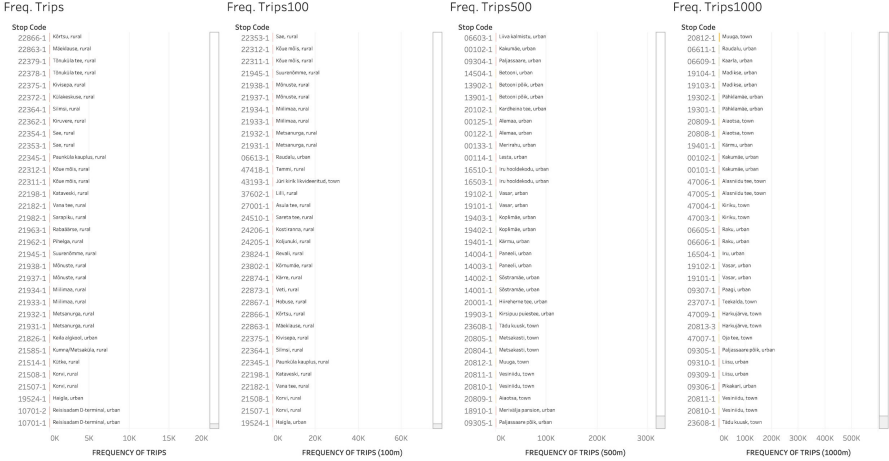
SPIN UNIT | DEMOS HELSINKI | Horjumaa region offer 9th July 2020 Tallinn - Helsinki

2 INDICATORS

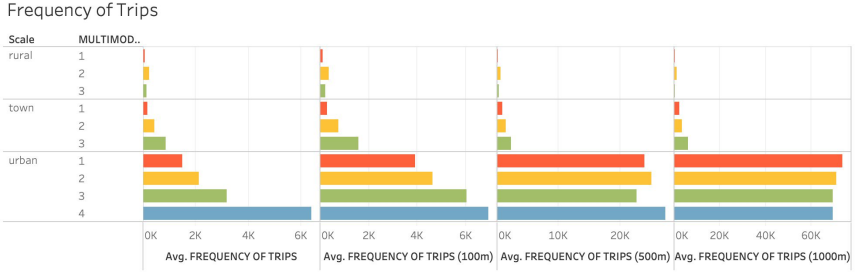
FREQUENCY OF TRIPS
Total number of departures, across all modes, between Monday and Friday of the week of Oct 7, 2019.



TOP 25%



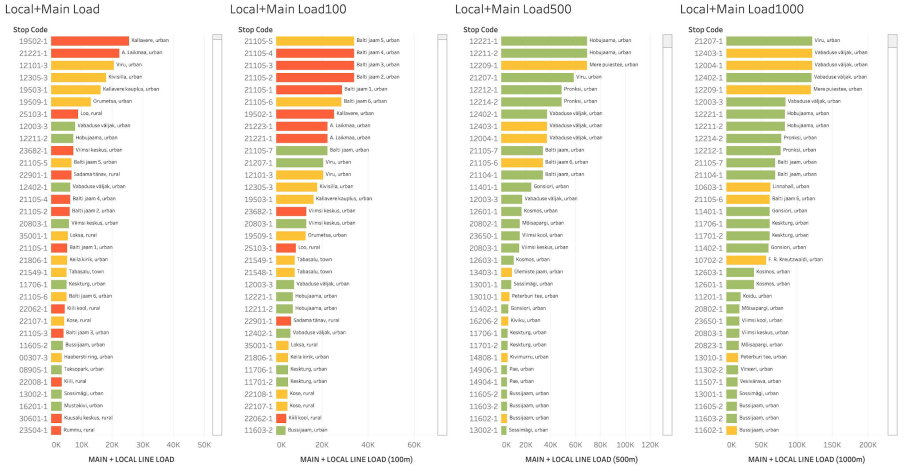
BOTTOM 25%



SPIN UNIT | DEMOS HELSINKI
Harjumaa region offer
9th July 2020
Tallinn - Helsinki

2 INDICATORS

MAIN + LOCAL LINE LOAD
The average daily departure load (main + local lines) for a stop. (Oct 2019))



TOP 25%



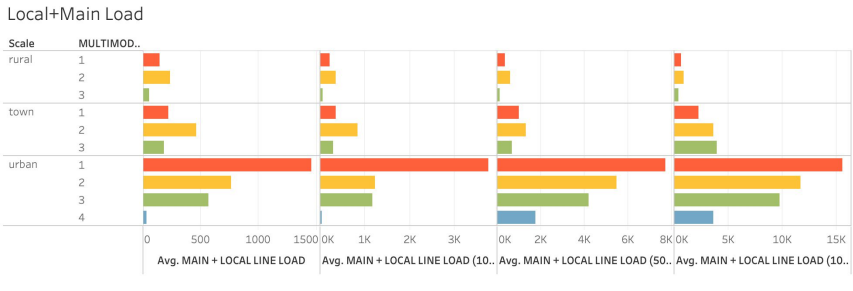
BOTTOM 25%

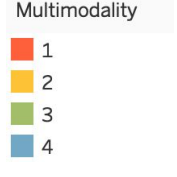
Regional bus operators (Tallinn excluded):
Loading of people from PT Bus Stops
Provider: Ridango
Time: 2019, October, all weekdays (M-F)

Stop code: the stop's stop code

Local line: local line (line contained within municipal borders) load

Main line: main line (county line that crosses municipal borders) load





SPIN UNIT | DEMOS HELSINKI | Harjumaa region offer 9th July 2020 Tallinn - Helsinki

2 INDICATORS

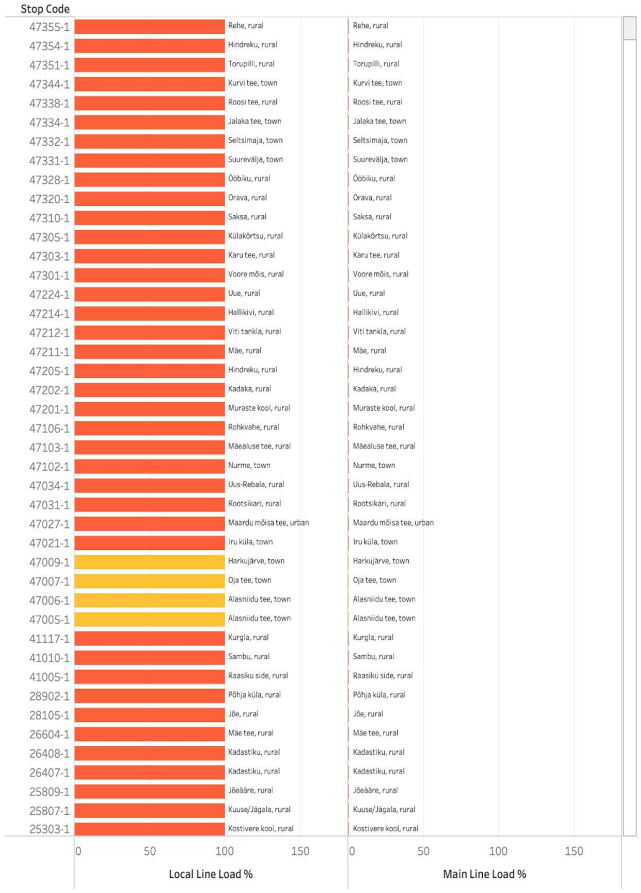
MAIN + LOCAL LINE LOAD
The average daily departure load (main + local lines) for a stop. (Oct 2019)

Regional bus operators (Tallinn excluded):
Loading of people from PT Bus Stops
Provider: Ridango
Time: 2019, October, all weekdays (M-F)

Stop code: the stop's stop code

Local line: local line (line contained within municipal borders) load

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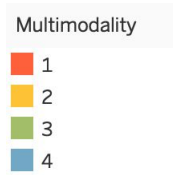
Multimodality
1
2
3
4

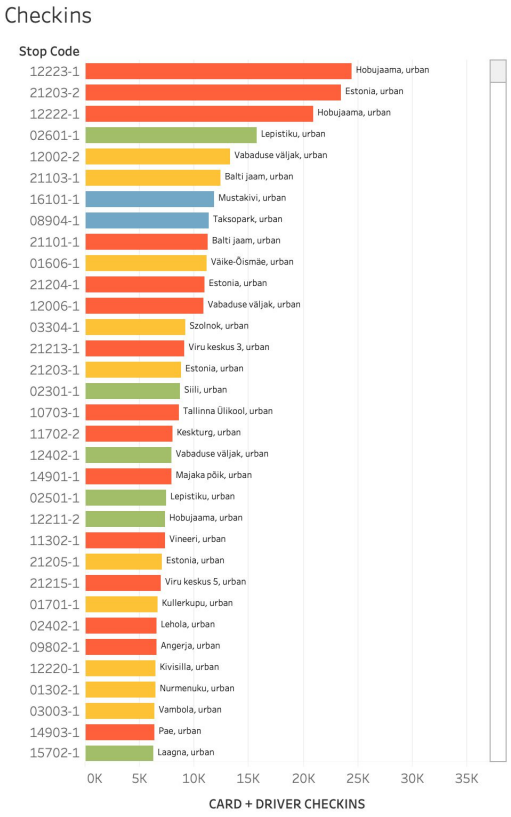
SPIN UNIT DEMOS HELSINKI Harjumaa region offer 9th July 2020 Tallinn - Helsinki

SPIN UNIT DEMOS HELSINKI

2 INDICATORS

Check-ins





TOP 25%

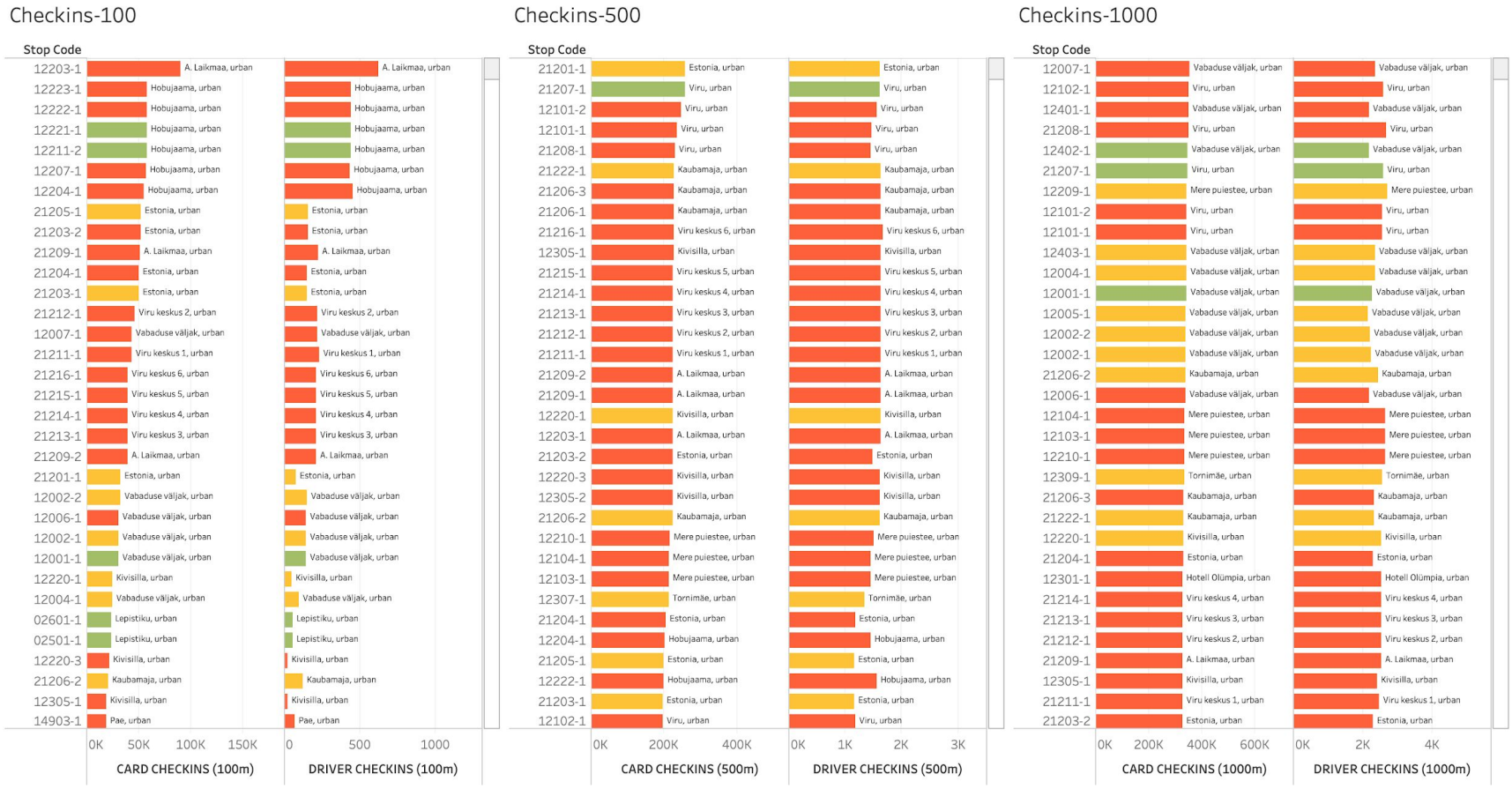


BOTTOM 25%

SPIN UNIT DEMOS HELSINKI

2 INDICATORS

Check-ins



TOP 25%

SPIN UNIT DEMOS HELSINKI

2 INDICATORS

Check-ins

Multimodality
1
2
3
4

Checkins-100



Checkins-500



Checkins-1000

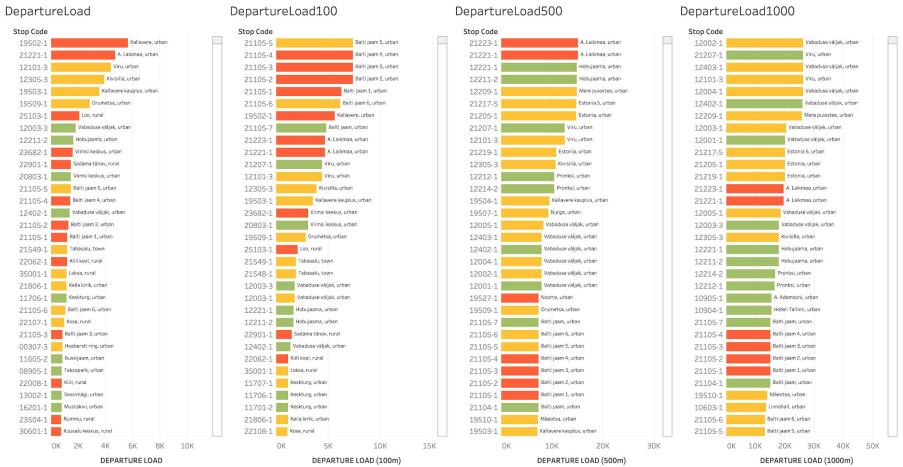


BOTTOM 25%

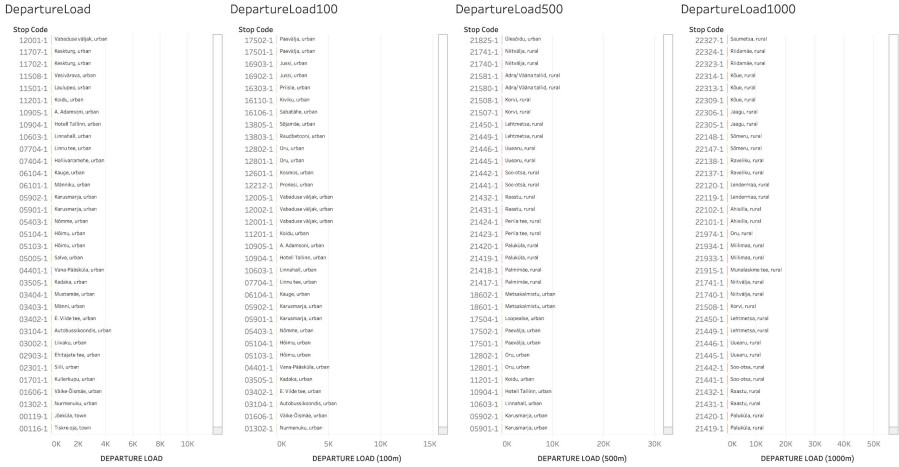
SPIN UNIT DEMOS HELSINKI

2 INDICATORS

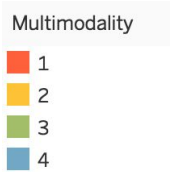
DEPARTURE LOAD



TOP 25%



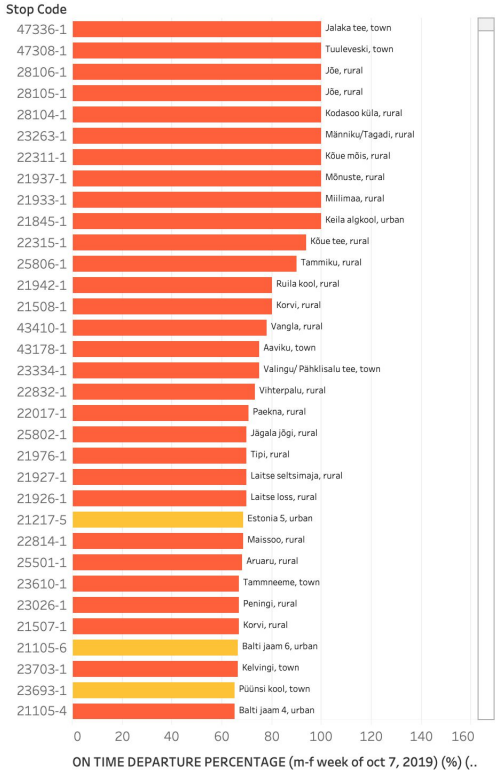
BOTTOM 25%



2 INDICATORS

ON-TIME DEPARTURE PERCENTAGE
Percentage of trips that were on time between Monday and Friday of the week of Oct 7, 2019. (1 min tolerance)

OnTime%



TOP 25%

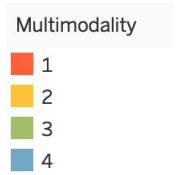
OnTime%

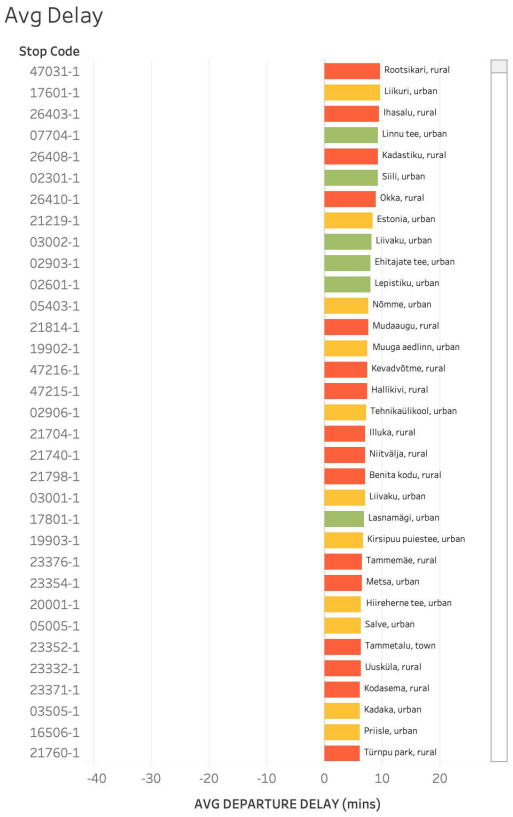


BOTTOM 25%

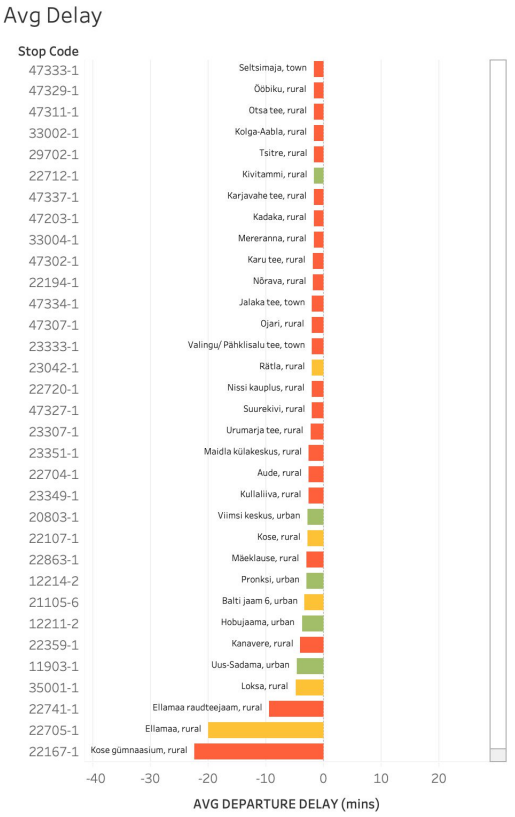
2 INDICATORS

Average Departure Delay





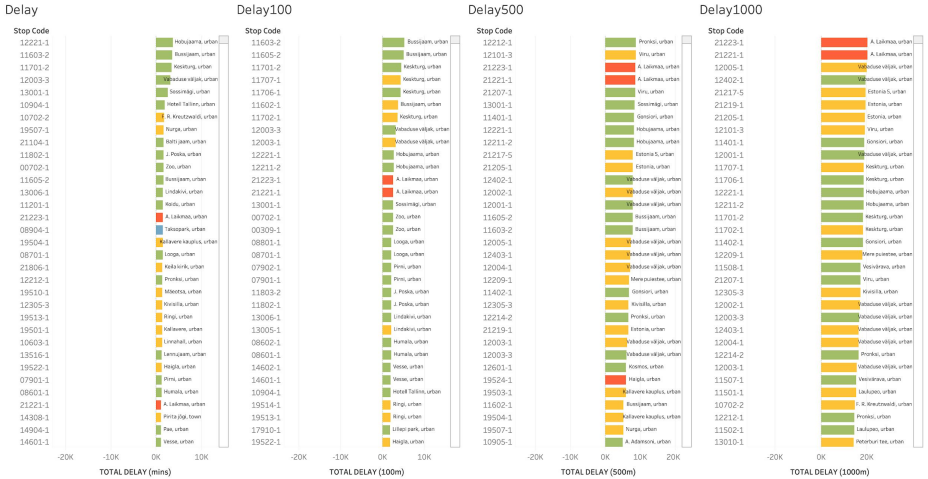
TOP 25%



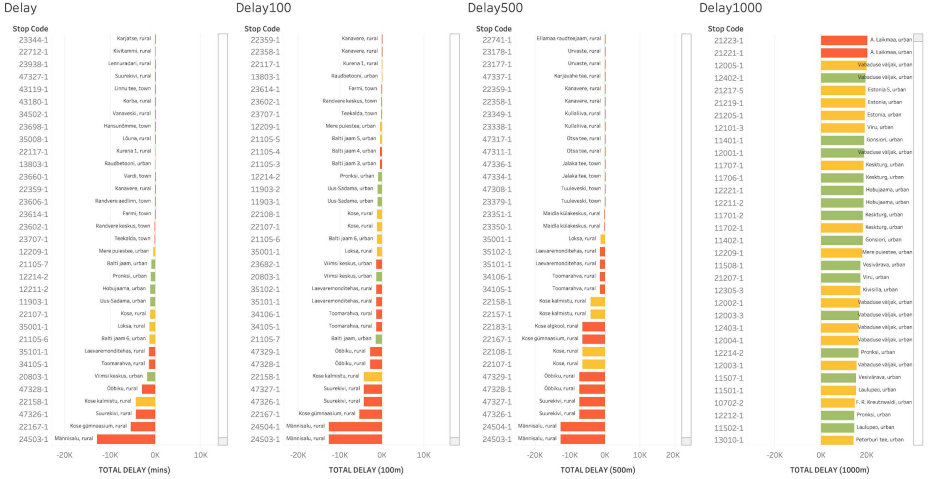
BOTTOM 25%

2 INDICATORS

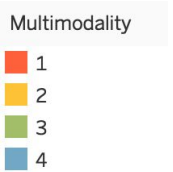
TOTAL DELAY
The total delay, in minutes, between Monday and Friday of the week of Oct 7, 2019.



TOP 25%



BOTTOM 25%

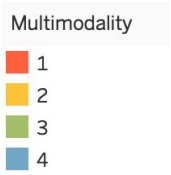


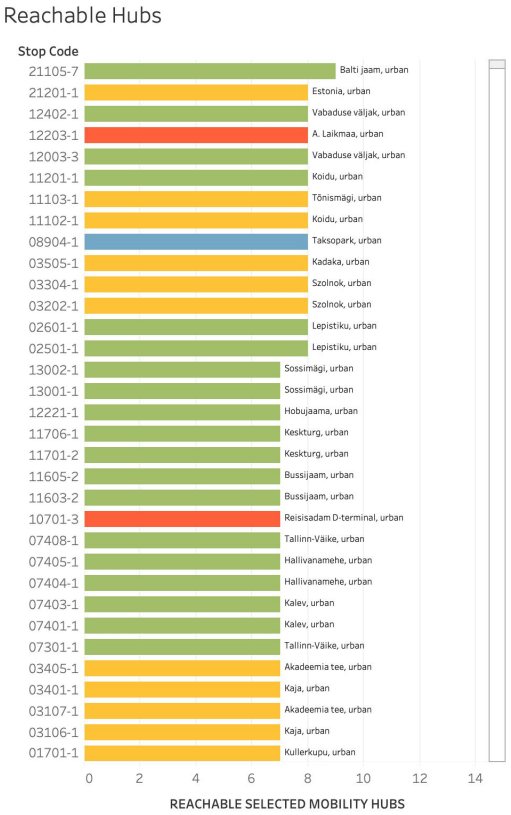
2 INDICATORS

Reachable selecte

REACH OF MOBILITY HUBS
The number of selected mobility hubs reached *directly* from a stop during the weekdays of the week of Oct 7, 2019.

1. Hobujaama+ Viru keskus+ A. Laikmaa
2. Estonia
3. Balti jaam
4. Lennujaam
5. Kristiine (Taksopark+ Lilleküla)
6. Haabersti
7. Vabaduse väljak
8. Bussijaam
9. Harbor (A-terminal, D-terminal)
10. Tondi+ Kalev





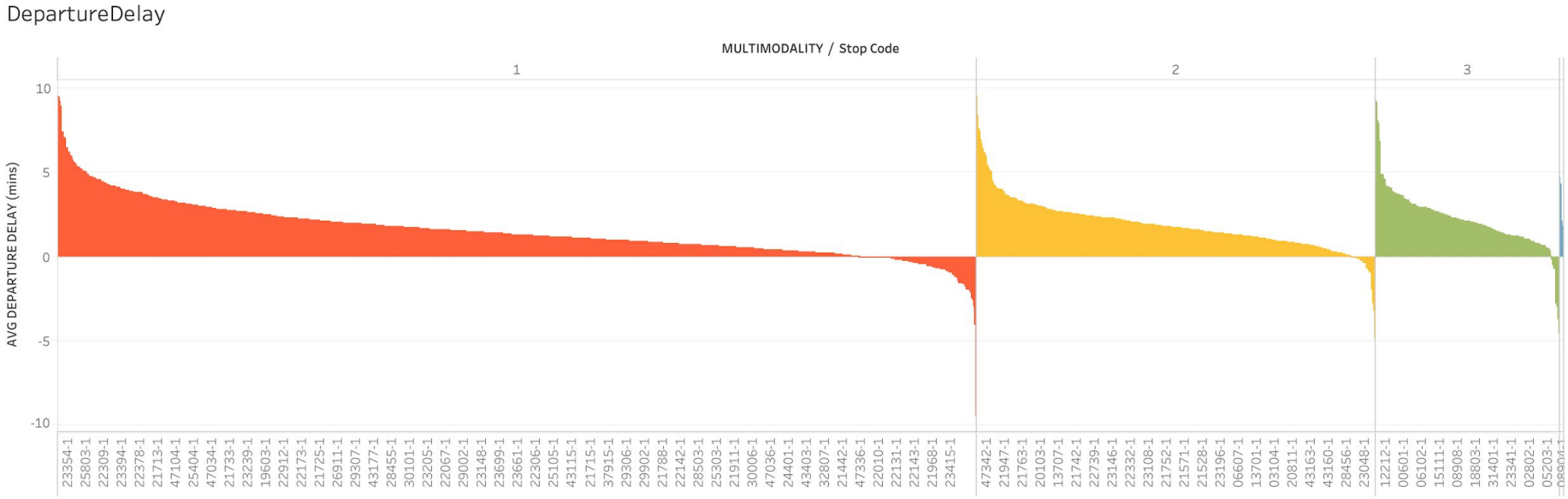
TOP 25%



BOTTOM 25%

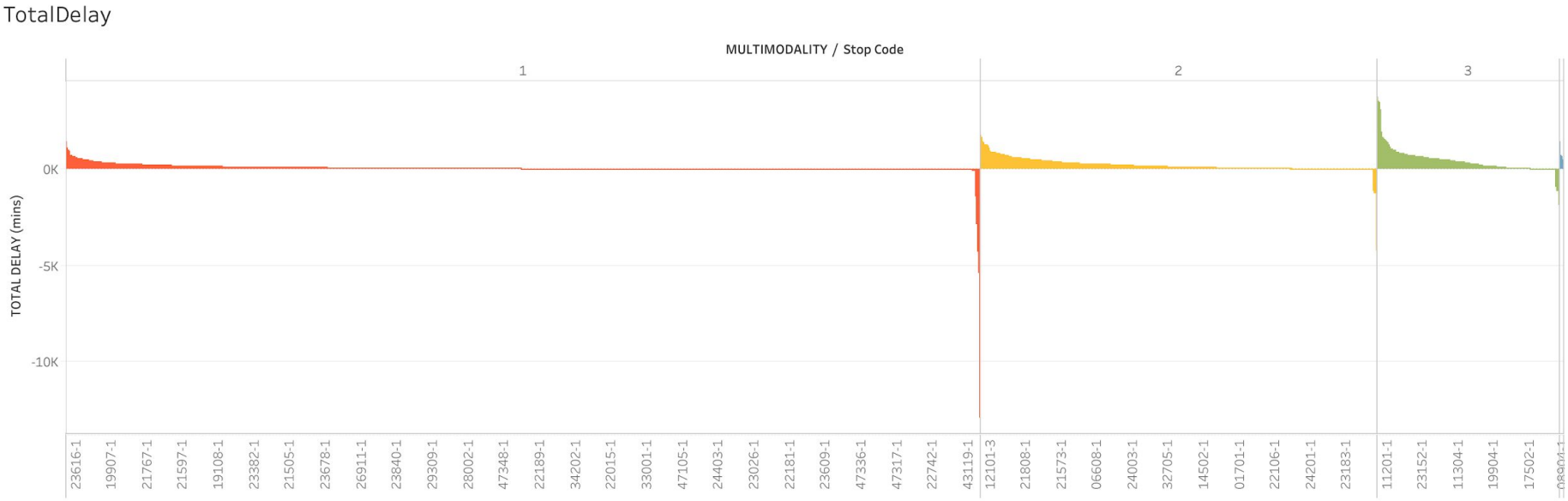
2 INDICATORS

MULTIMODALITY VS AVERAGE DELAY



2 INDICATORS

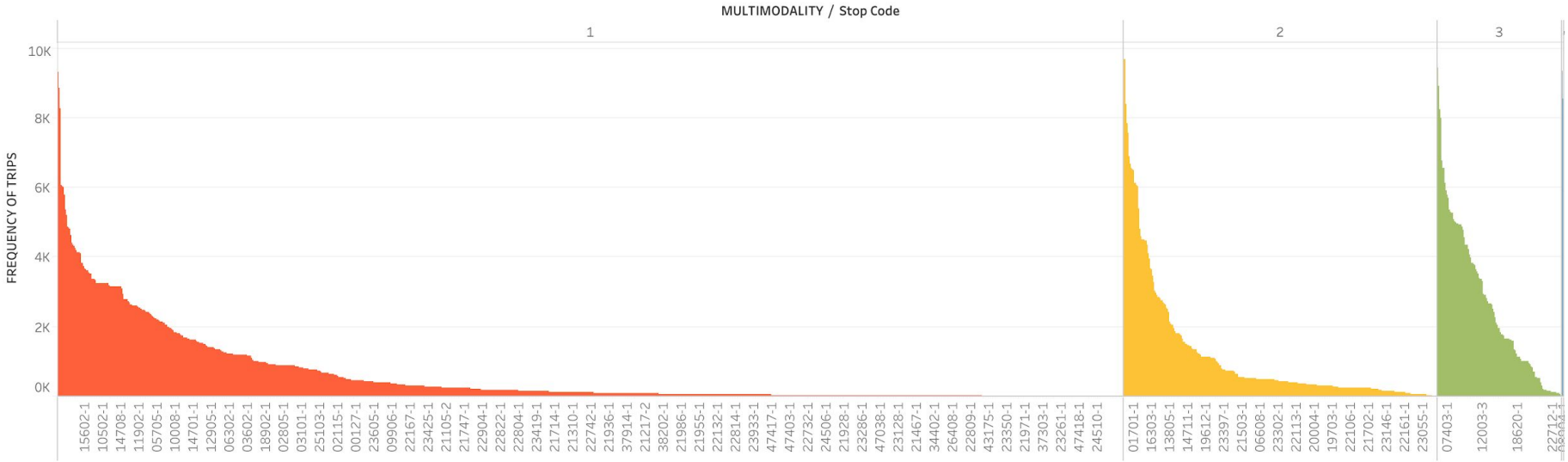
MULTIMODALITY VS TOTAL DELAY



2 INDICATORS

MULTIMODALITY VS FREQUENCY

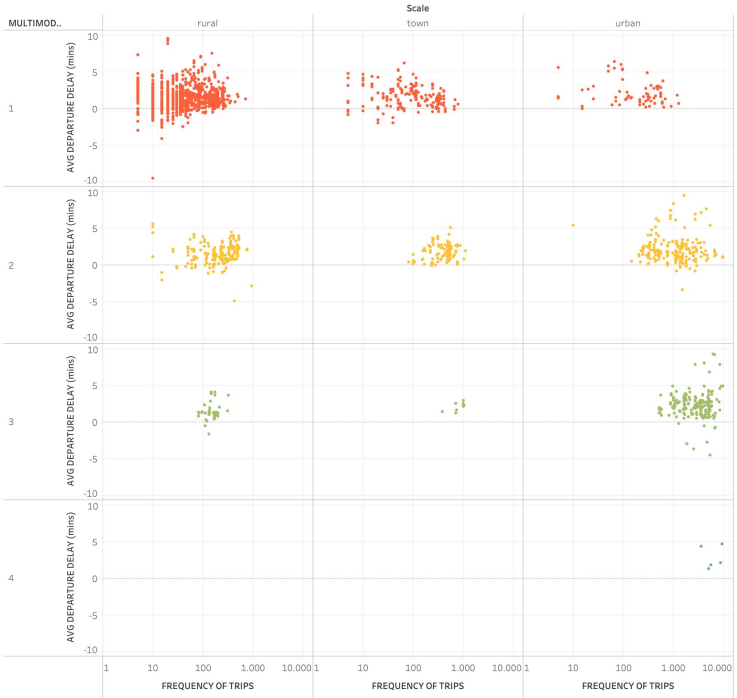
Driver Checkins

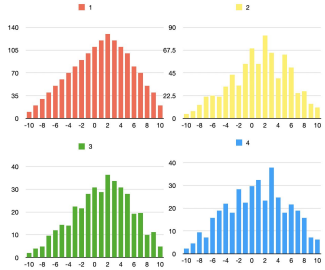


2 INDICATORS

AVERAGE DELAY VS FREQUENCY

Delay VS Frequency (-10 to +10 min)





Number of public transit vehicles that have stopped at and/or departed from each stop (in week monday to friday).

Every dot is one stop.

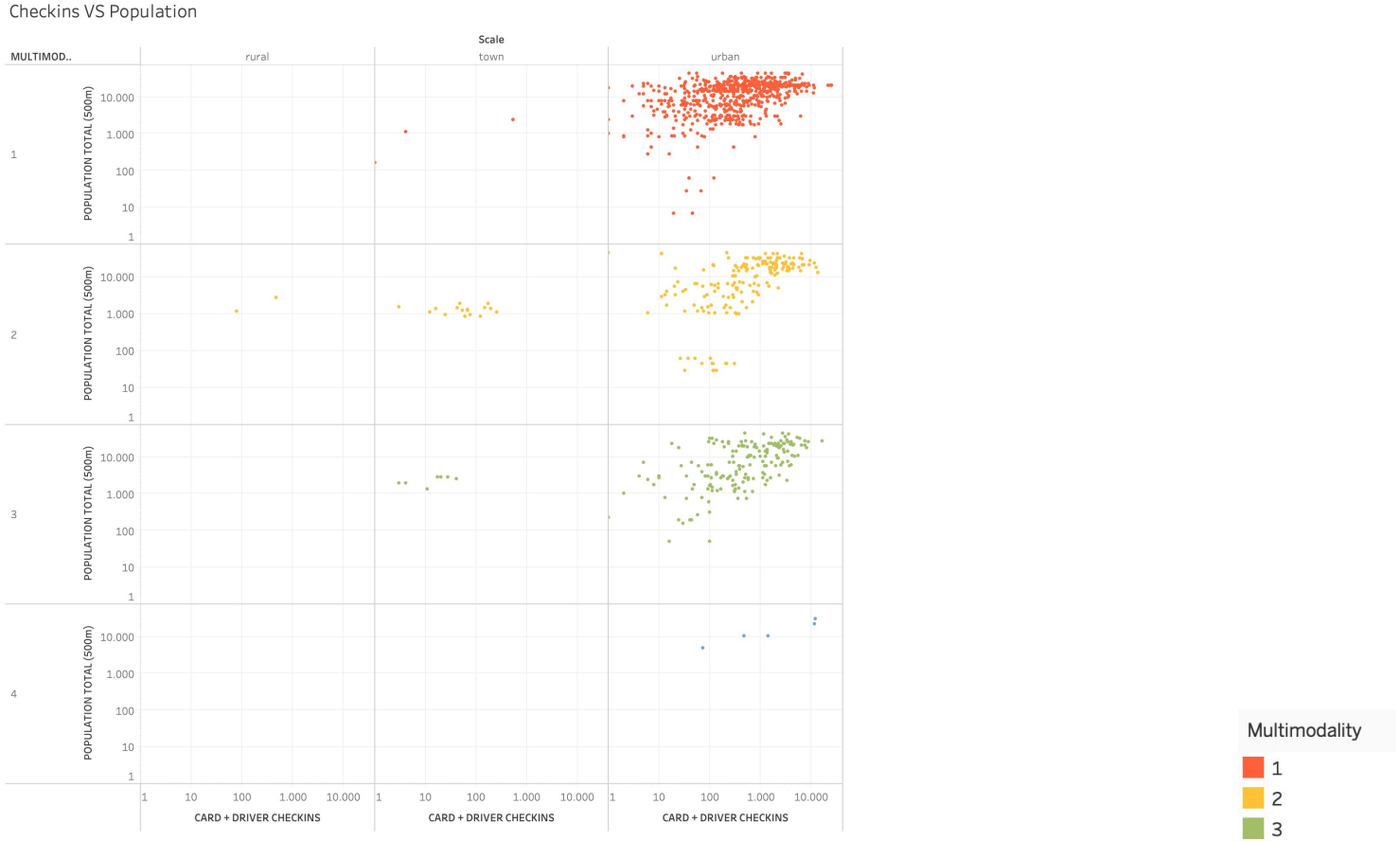
Multimodality does not appear to be the cause of delay.

Single-mode stations are the ones carrying more dalay (influenced by long trips - highway stops)

Multimodality
1
2
3
4

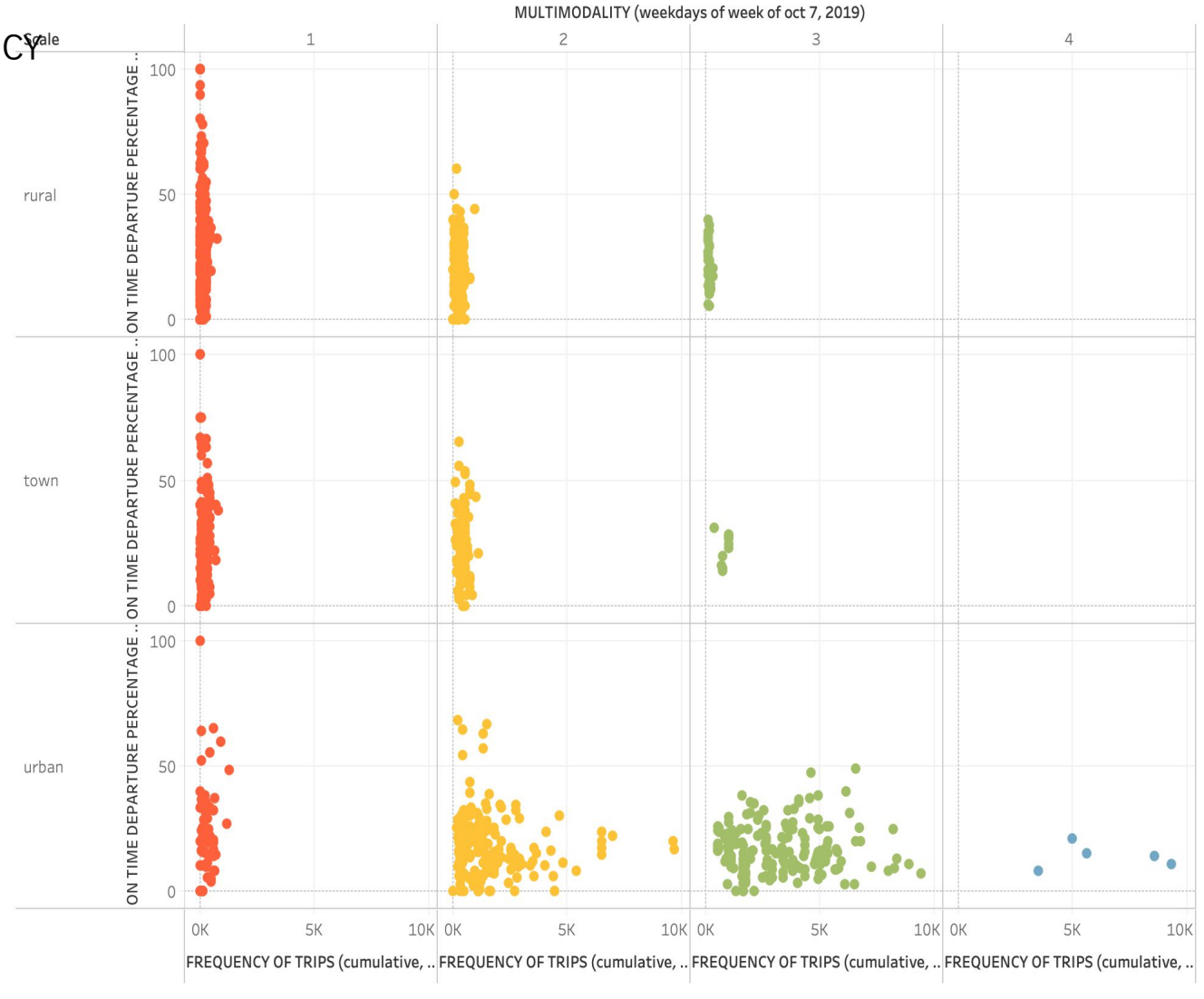
2 INDICATORS

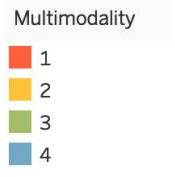
CHECK-INS VS POPULATION (500m)

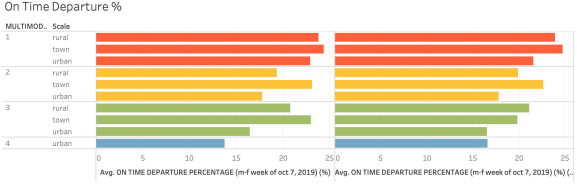


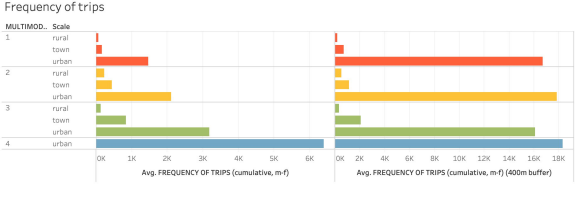
2 INDICATORS

ON TIME VS FREQUENCY



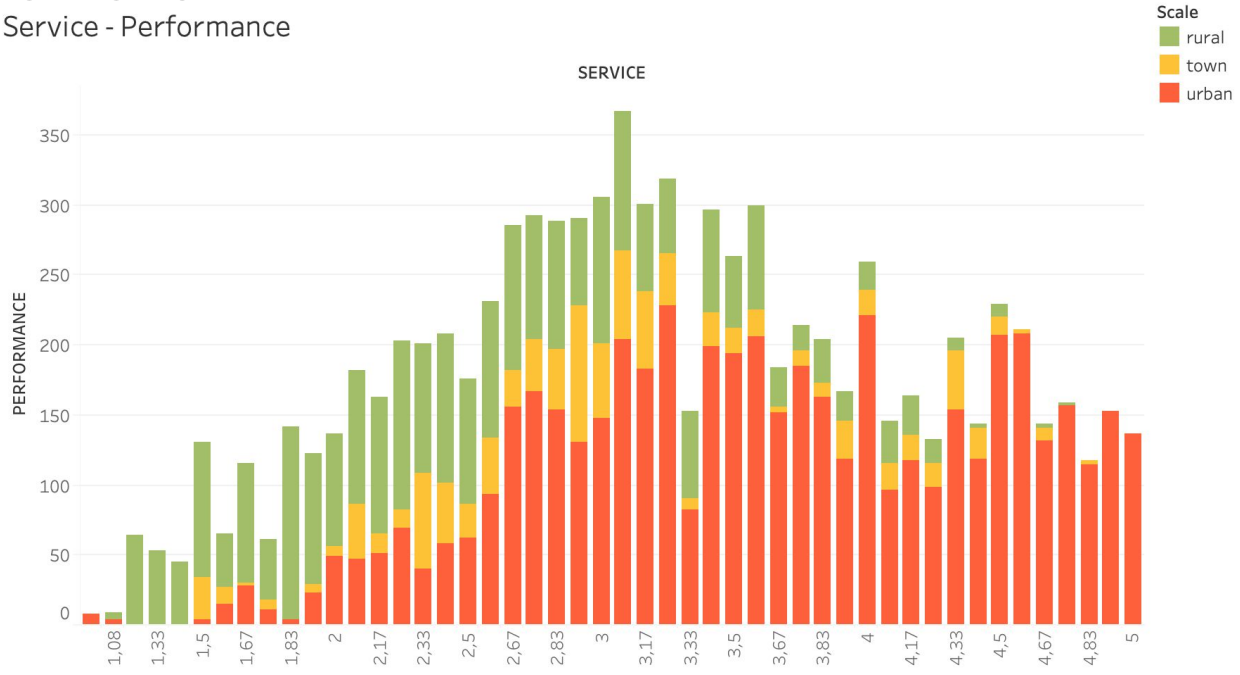


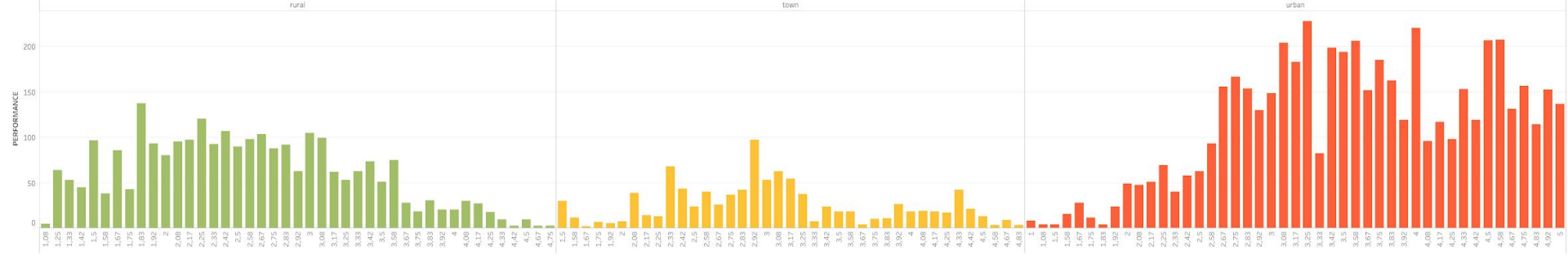




2 INDICATORS

Service - Performance





2 INDICATORS

On Time Departure percentage

On Time Departure Percentage

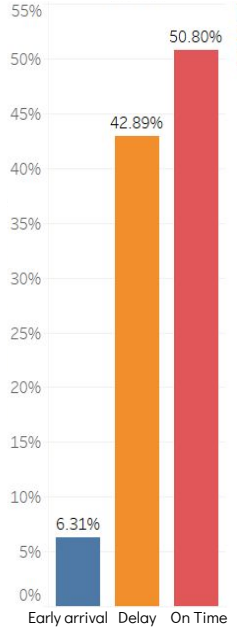
This metric corresponds to a stop's percentage of trips that were on time (1 minute tolerance) during the weekdays of the week of Oct 7, 2019.

The same list of delays used to calculate Average Departure Delay for a particular stop was used to calculate this metric. This metric is the percentage of these delays that were fell within the tolerance (1 minute in both directions).

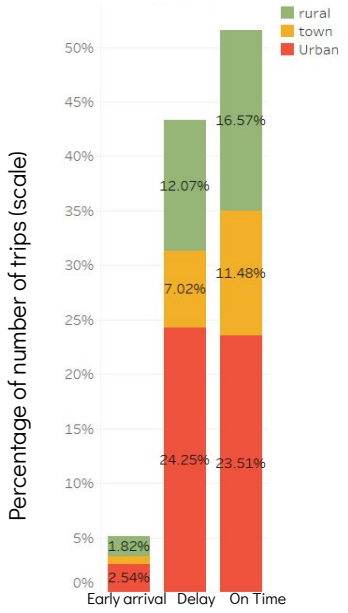
Data Source/Provider: Thorebi + Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 31.08
25 - 50 - 75: 17.07 - 30 - 43.71
Minimum - Maximum: 0 - 100

Comments to the graphs



Percentage of trips (On time, delayed and early arrival)



Percentage of trips (On time, delayed and early arrival)

2 INDICATORS

On Time Departure percentage by municipality

On Time Departure Percentage

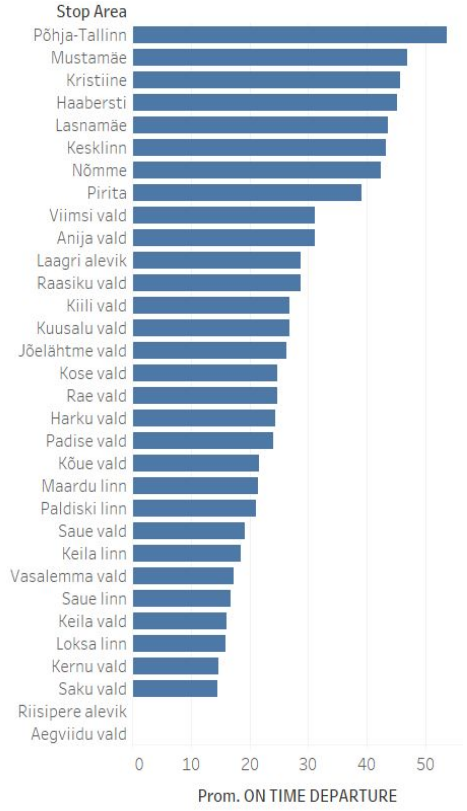
This metric corresponds to a stop's percentage of trips that were on time (1 minute tolerance) during the weekdays of the week of Oct 7, 2019.

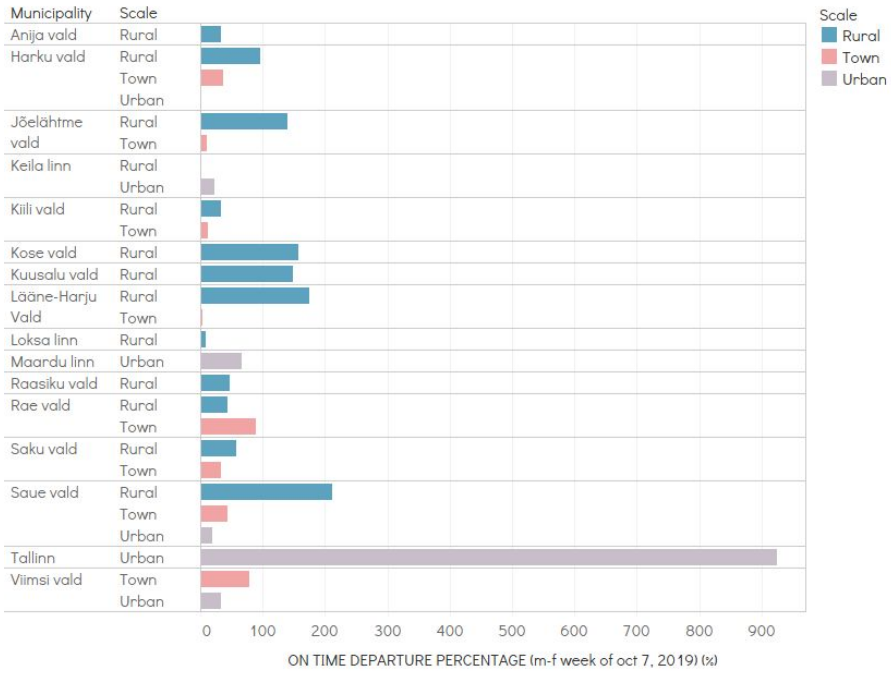
The same list of delays used to calculate Average Departure Delay for a particular stop was used to calculate this metric. This metric is the percentage of these delays that were fell within the tolerance (1 minute in both directions).

Data Source/Provider: Thorebi + Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 31.08
25 - 50 - 75: 17.07 - 30 - 43.71
Minimum - Maximum: 0 - 100

Comments to the graphs





2 INDICATORS

Percentage of on time trips grouped by hour

On Time Departure Percentage

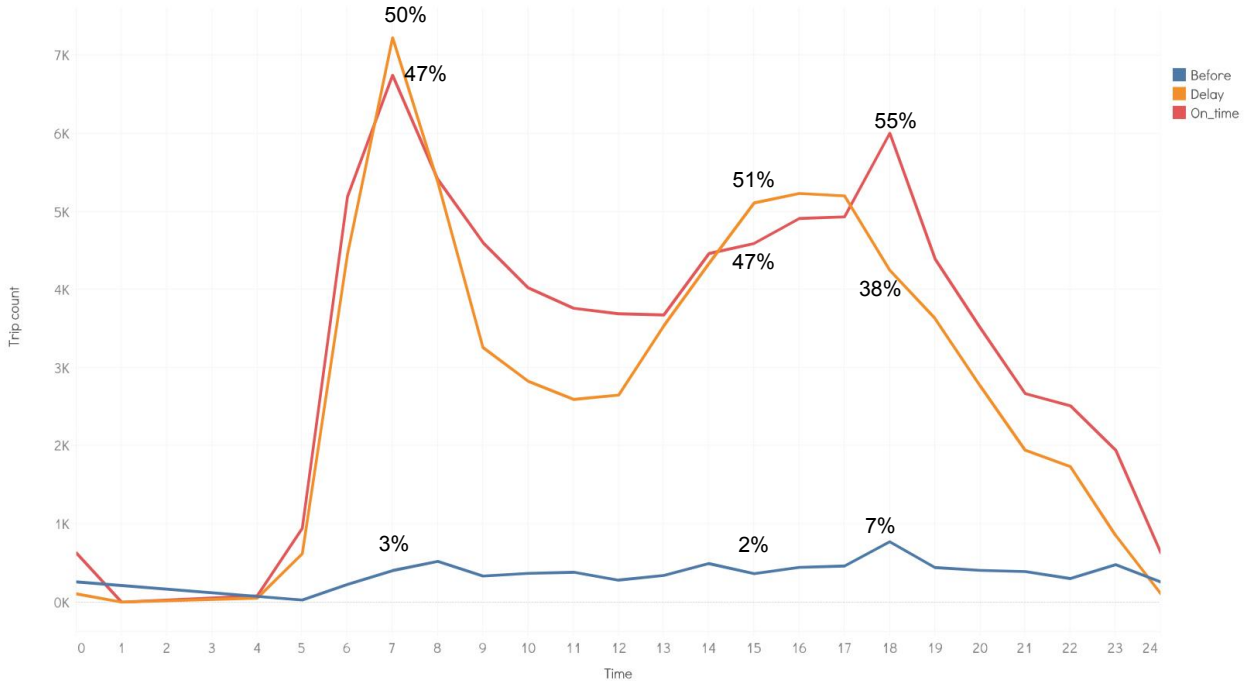
This metric corresponds to a stop's percentage of trips that were on time (1 minute tolerance) during the weekdays of the week of Oct 7, 2019.

The same list of delays used to calculate Average Departure Delay for a particular stop was used to calculate this metric. This metric is the percentage of these delays that were fell within the tolerance (1 minute in both directions).

Data Source/Provider: Thorebi + Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 31.08
25 - 50 - 75: 17.07 - 30 - 43.71
Minimum - Maximum: 0 - 100

Comments to the graphs



Considering that on time trips are the trips that has **1 minute or less** of delay

2 INDICATORS

On Time Departure Percentage

This metric corresponds to a stop's percentage of trips that were on time (1 minute tolerance) during the weekdays of the week of Oct 7, 2019.

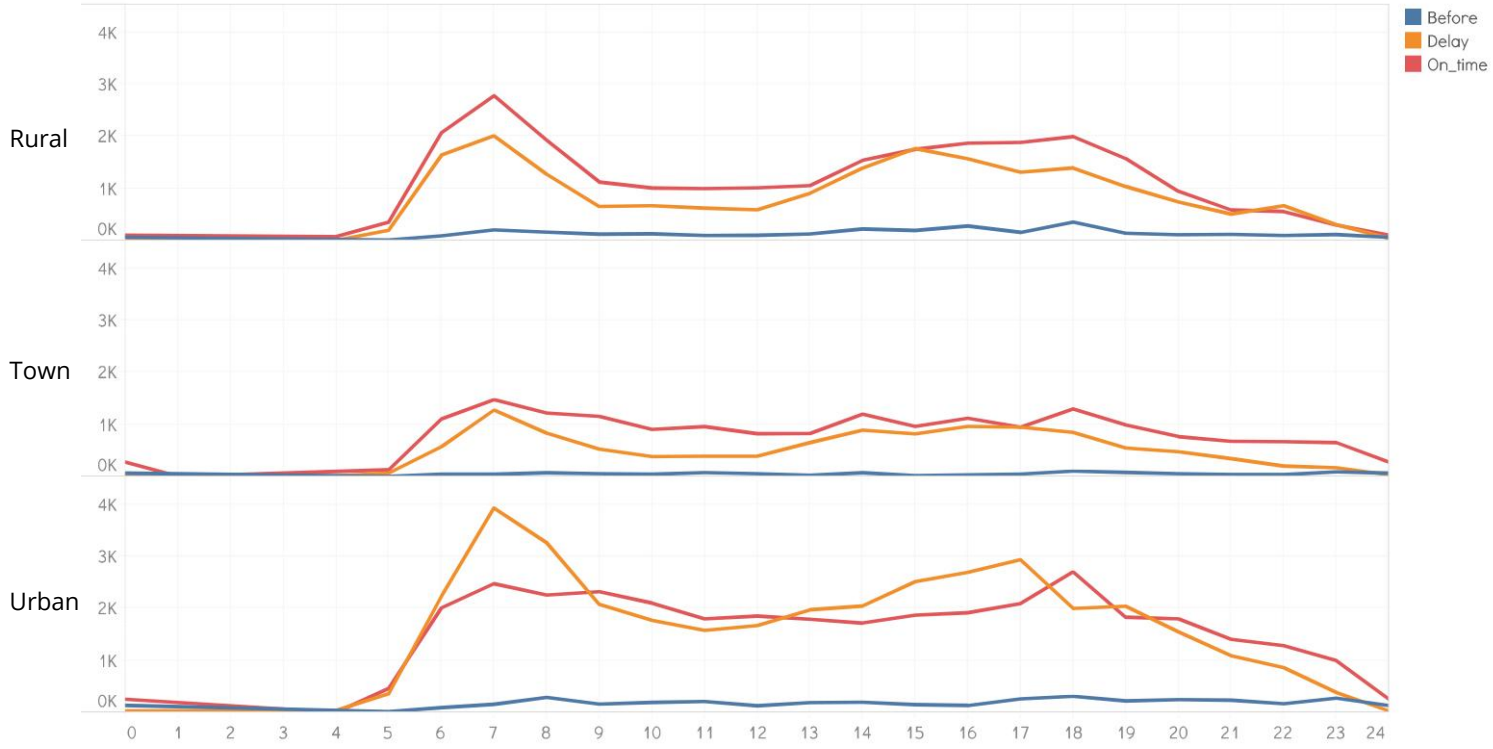
The same list of delays used to calculate Average Departure Delay for a particular stop was used to calculate this metric. This metric is the percentage of these delays that were fell within the tolerance (1 minute in both directions).

Data Source/Provider: Thorebi + Ridango
Date: Oct 7, 2019 - Oct 13, 2019

Mean: 31.08
25 - 50 - 75: 17.07 - 30 - 43.71
Minimum - Maximum: 0 - 100

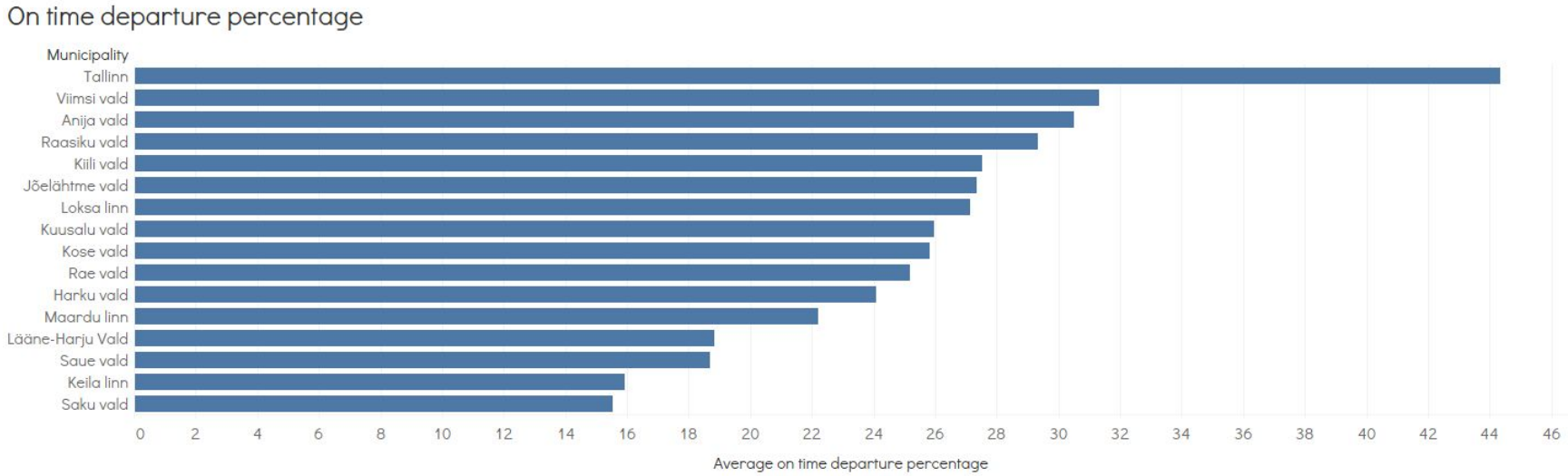
Comments to the graphs

Number of trips in a week by hour depending on scale



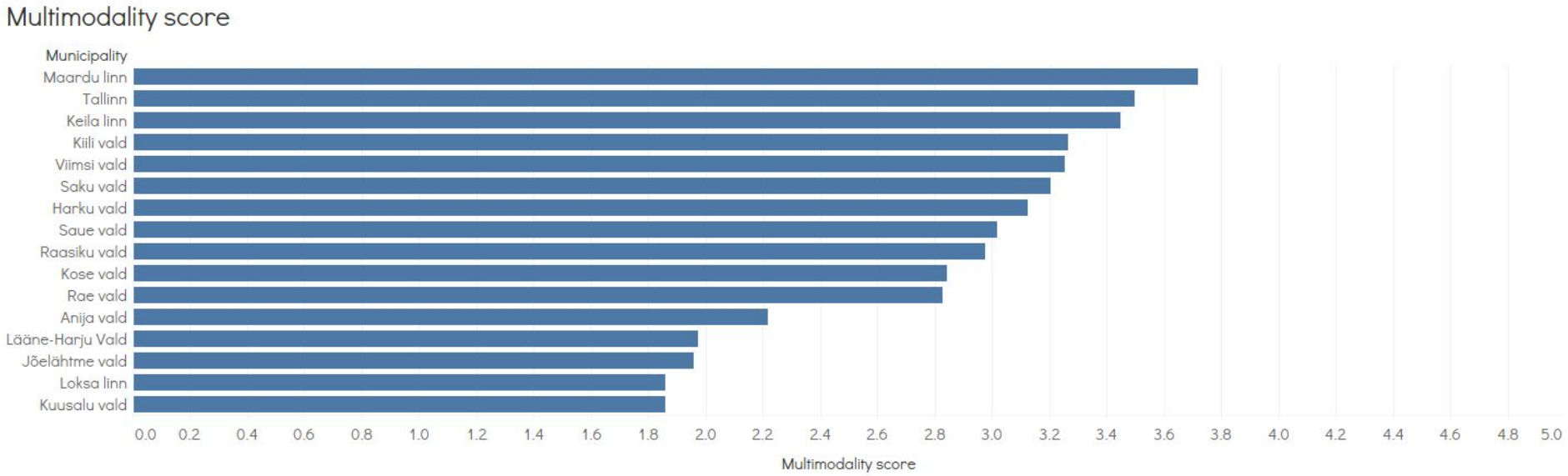
2 INDICATORS

On time departure percentage by municipality

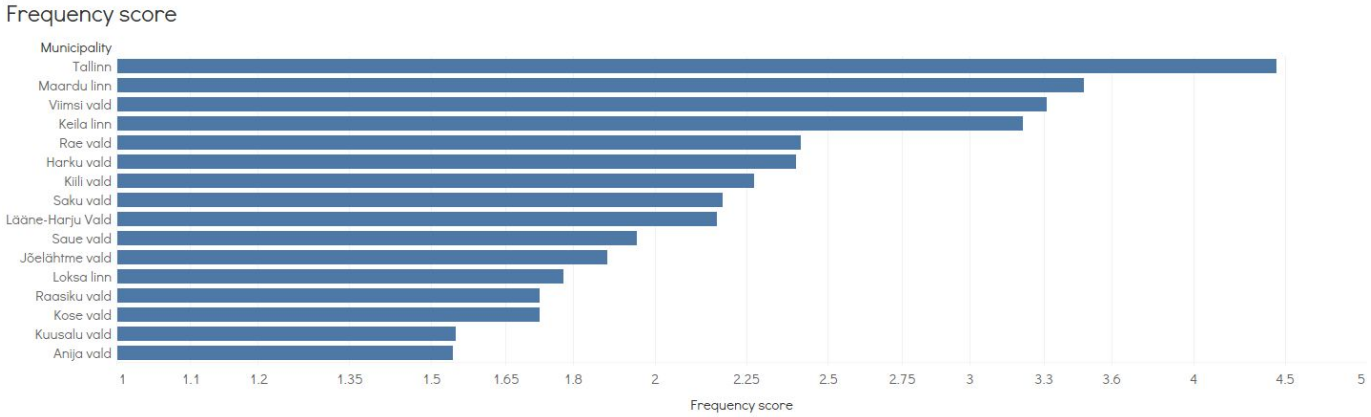


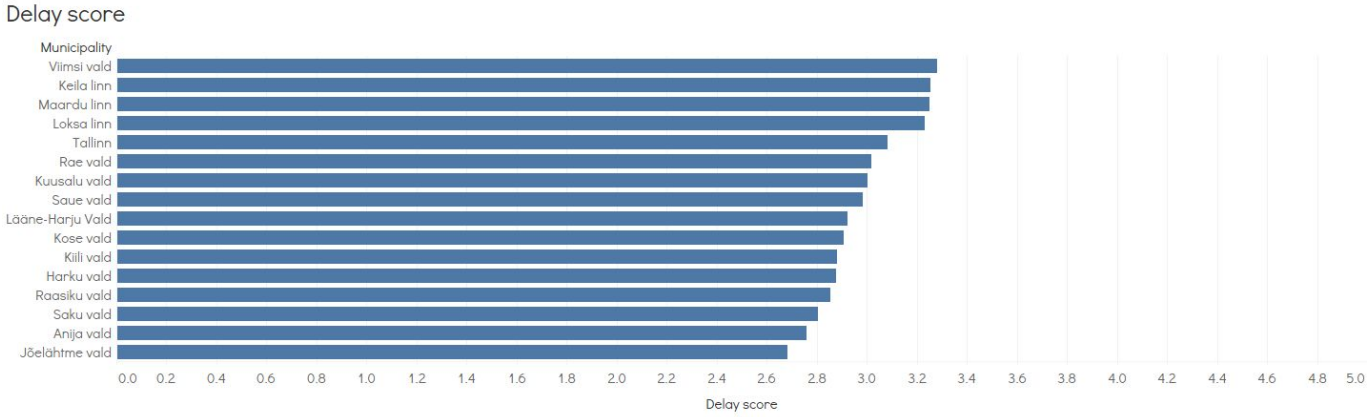
2 INDICATORS

Multimodality / Number of line



2 INDICATORS

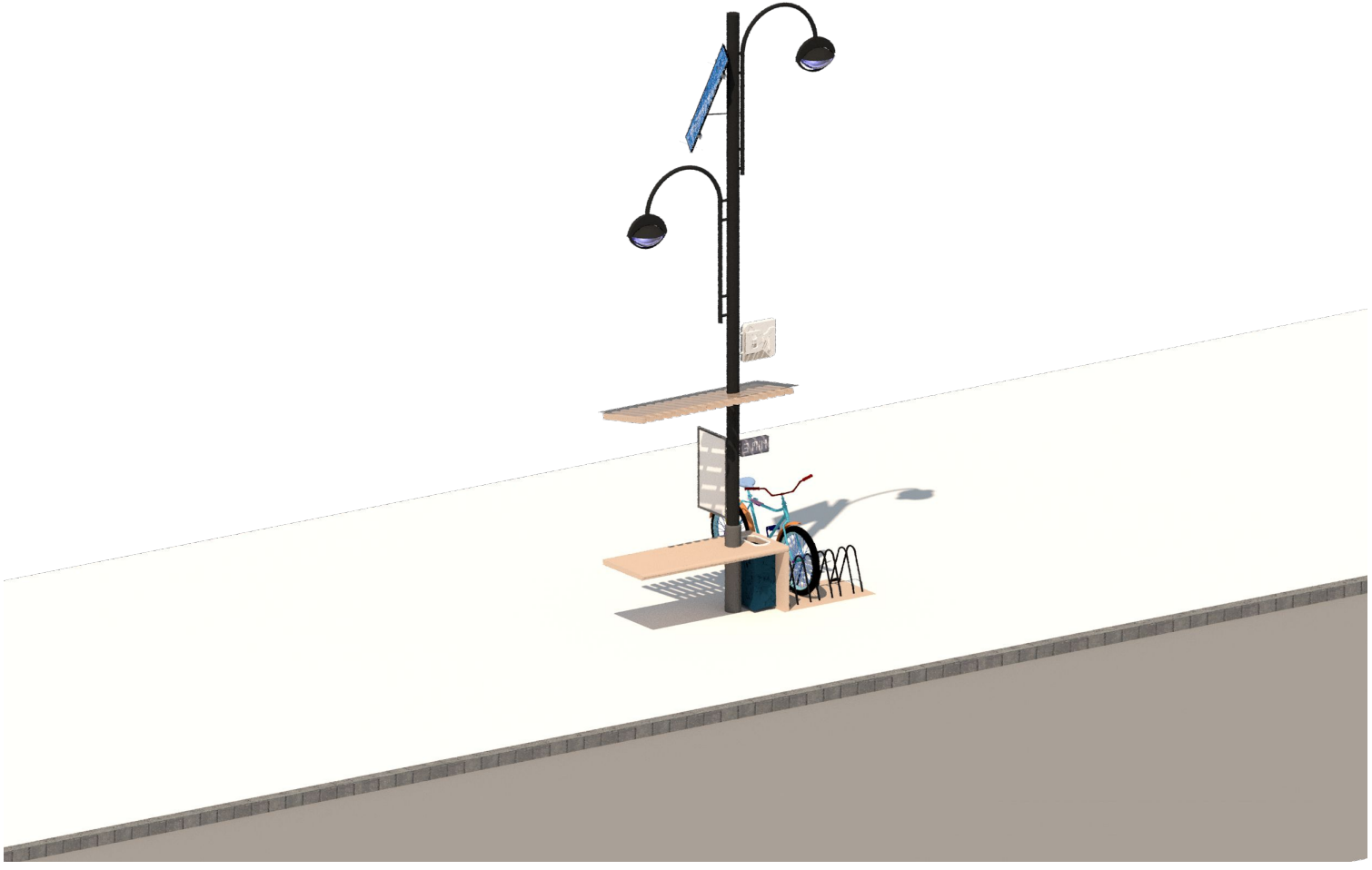




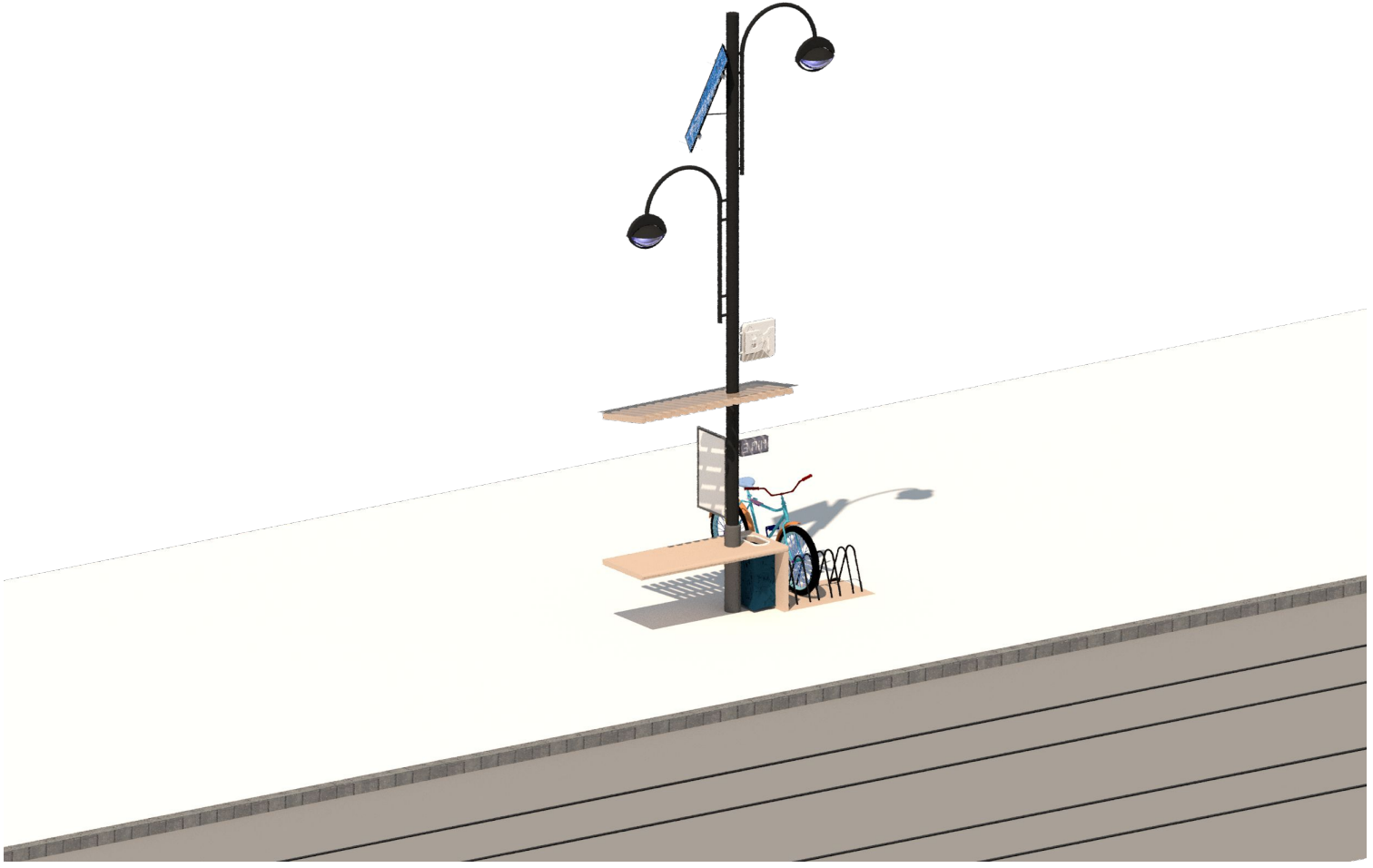
3 STOPS DESIGN POSSIBILITIES

Small

Type 1 - Small + Standard (Bus)



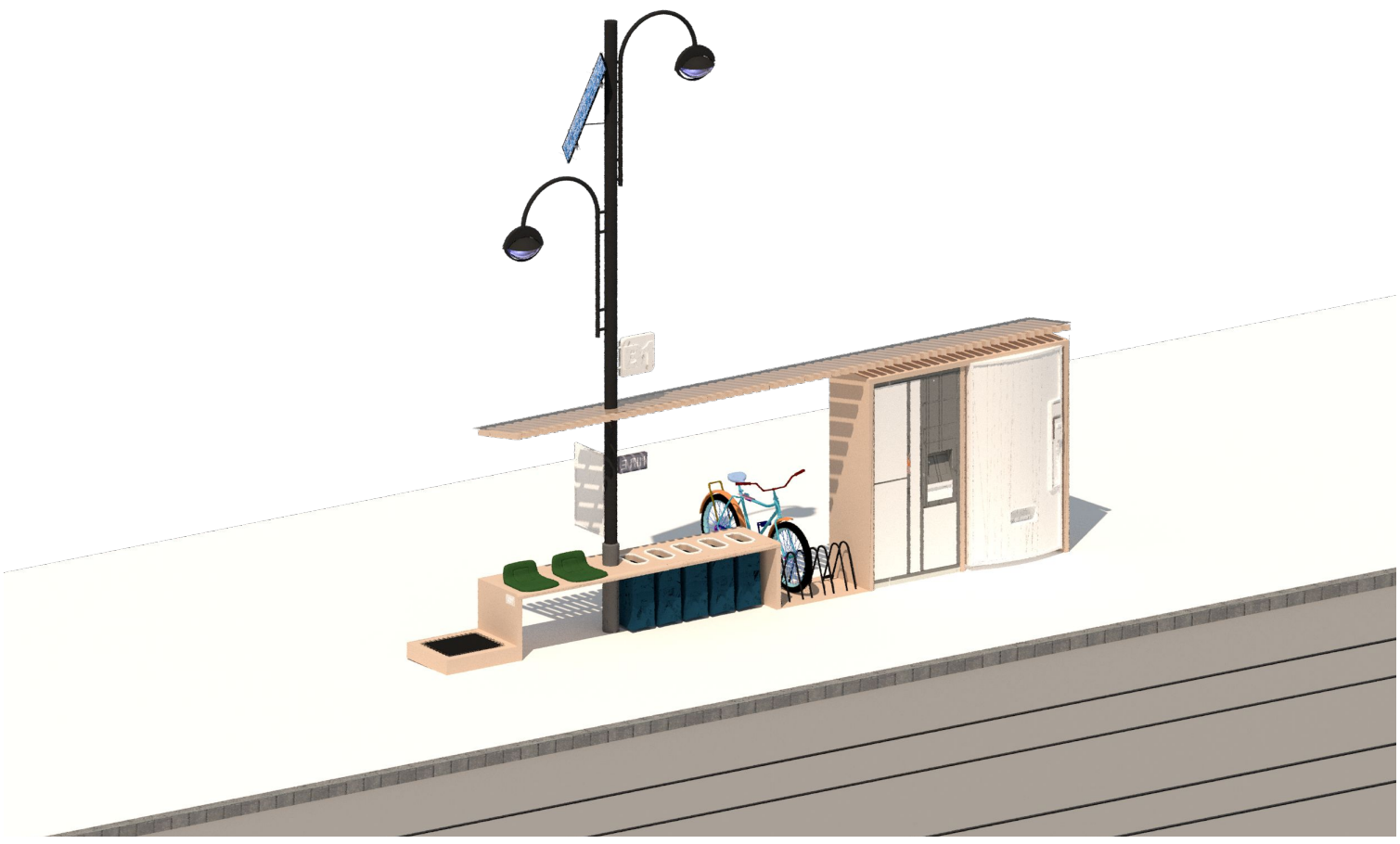
Type 1 - Small + Standard (Tram)



Type 2 - Small + Improved (Bus)

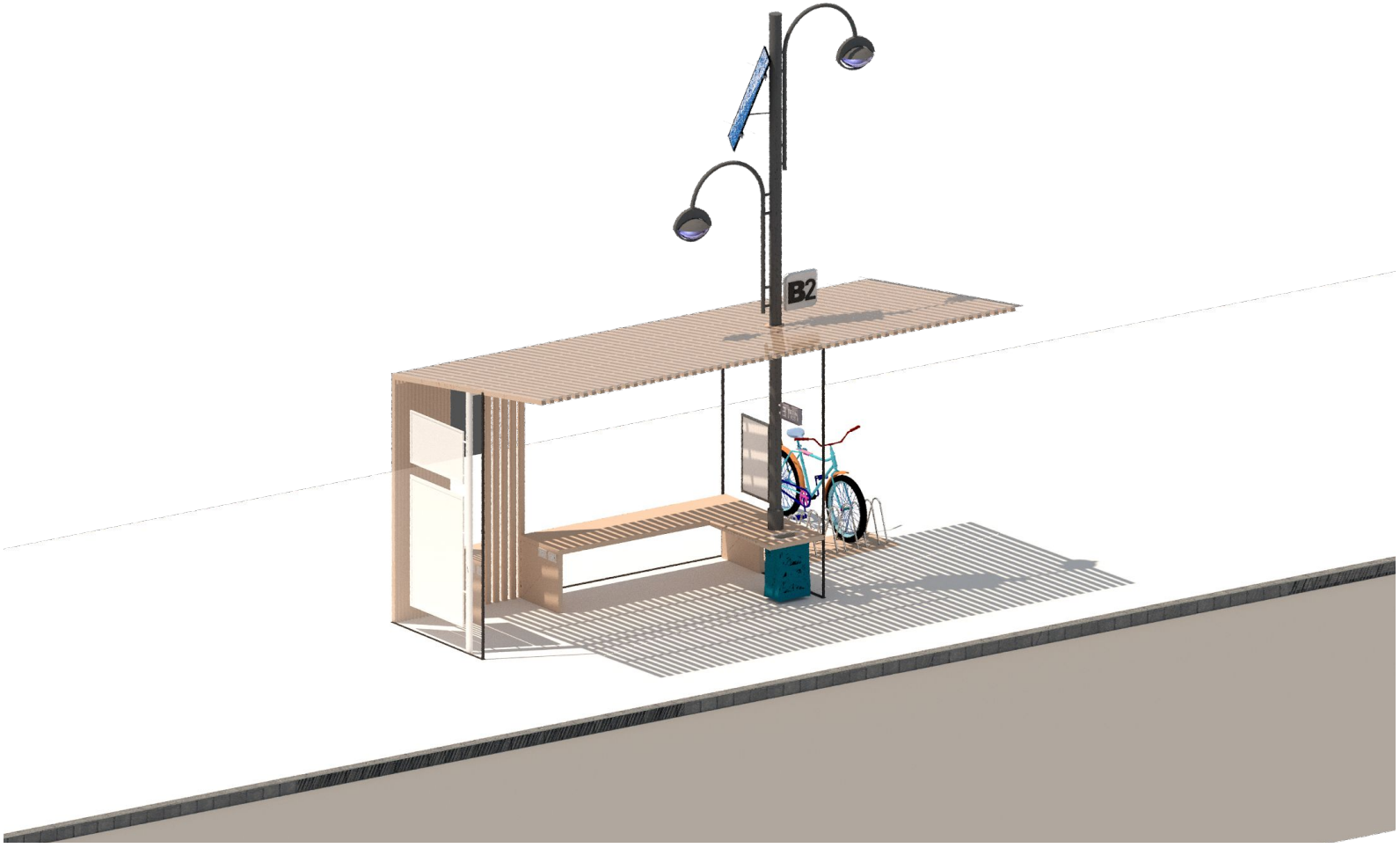


Type 2 - Small + Improved (Tram)

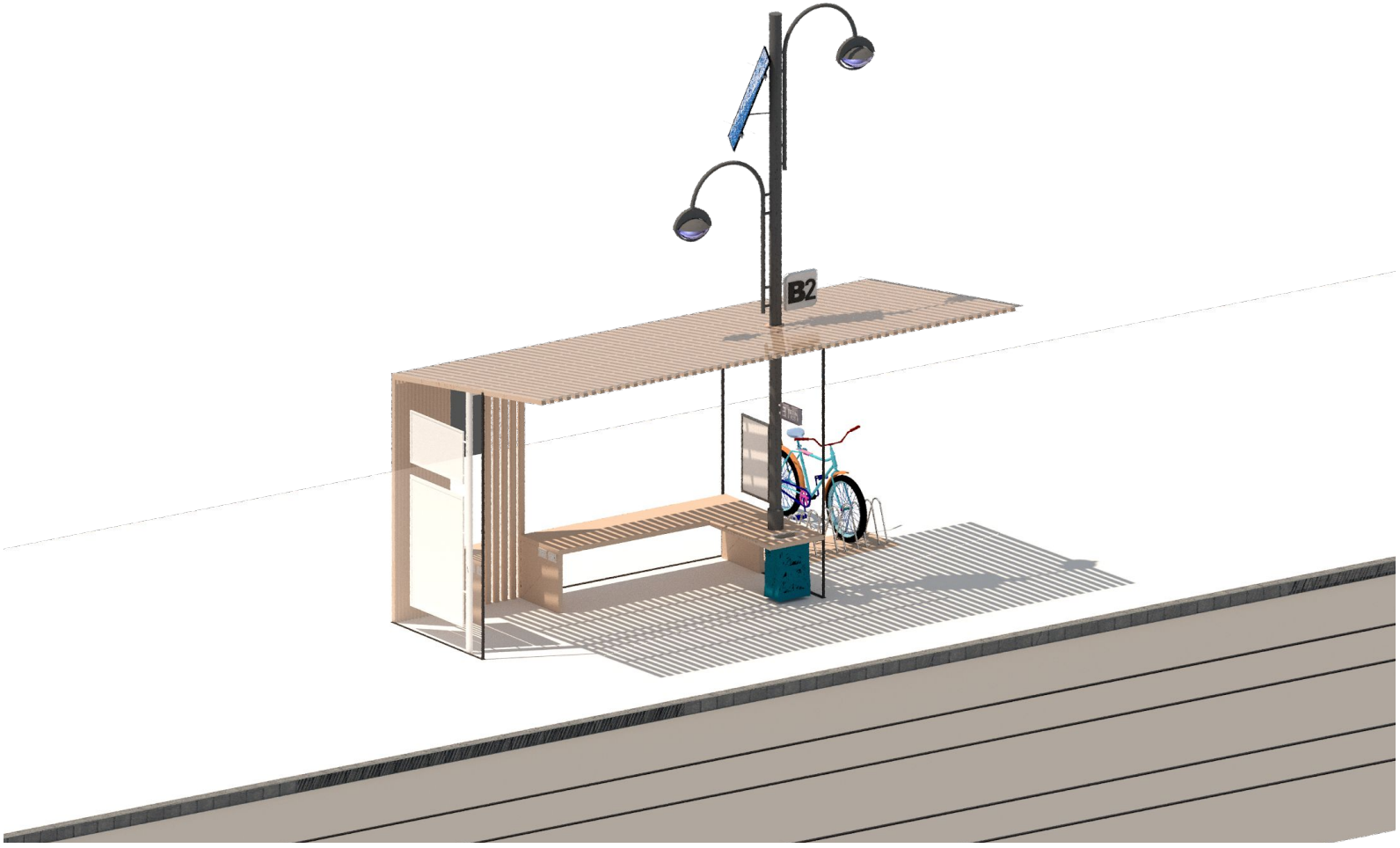


Medium

Type 3 - Medium + Standard (Bus)



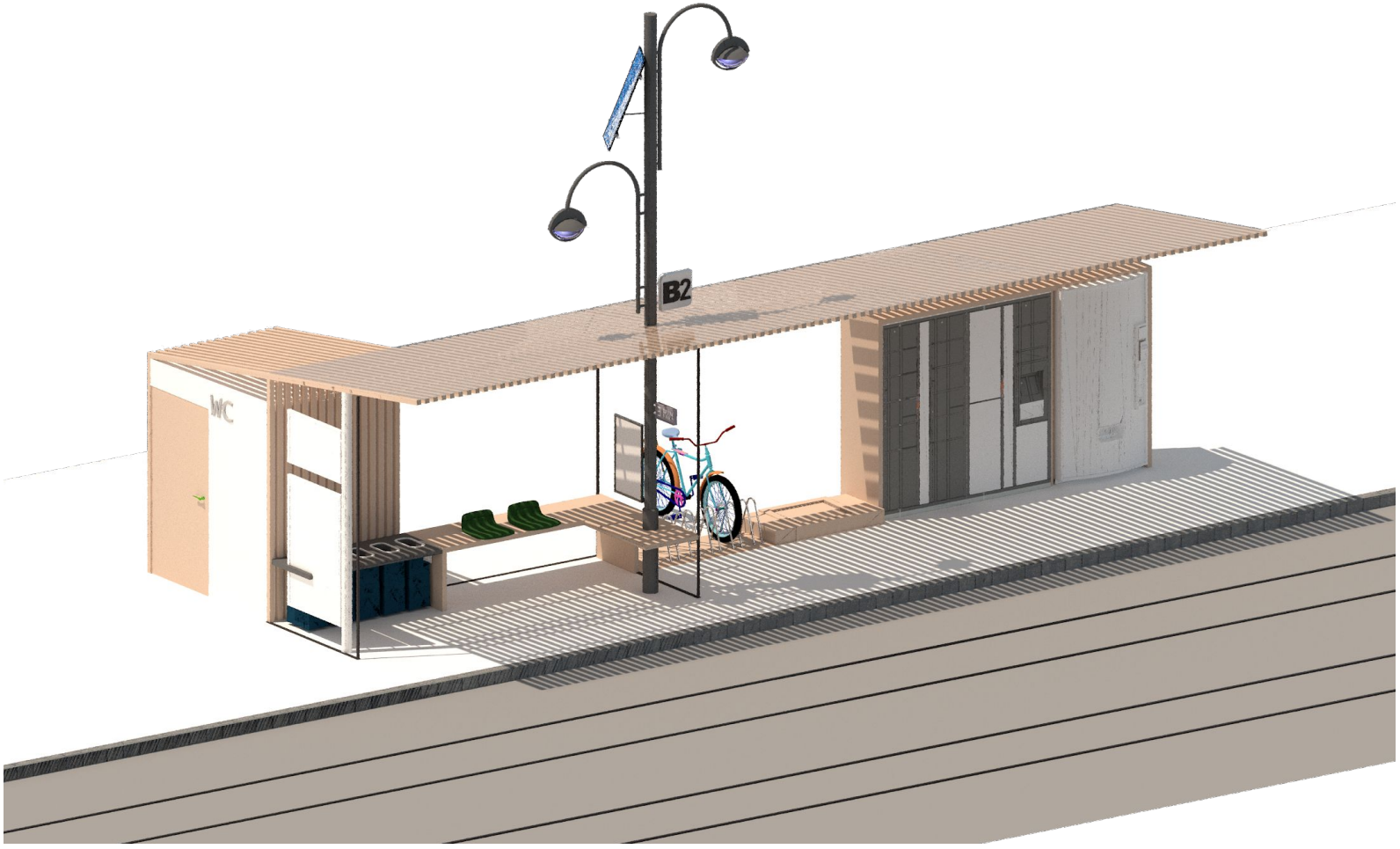
Type 3 - Medium + Standard (Tram)



Type 4 - Medium + Improved (Bus)



Type 4 - Medium + Improved (Tram)

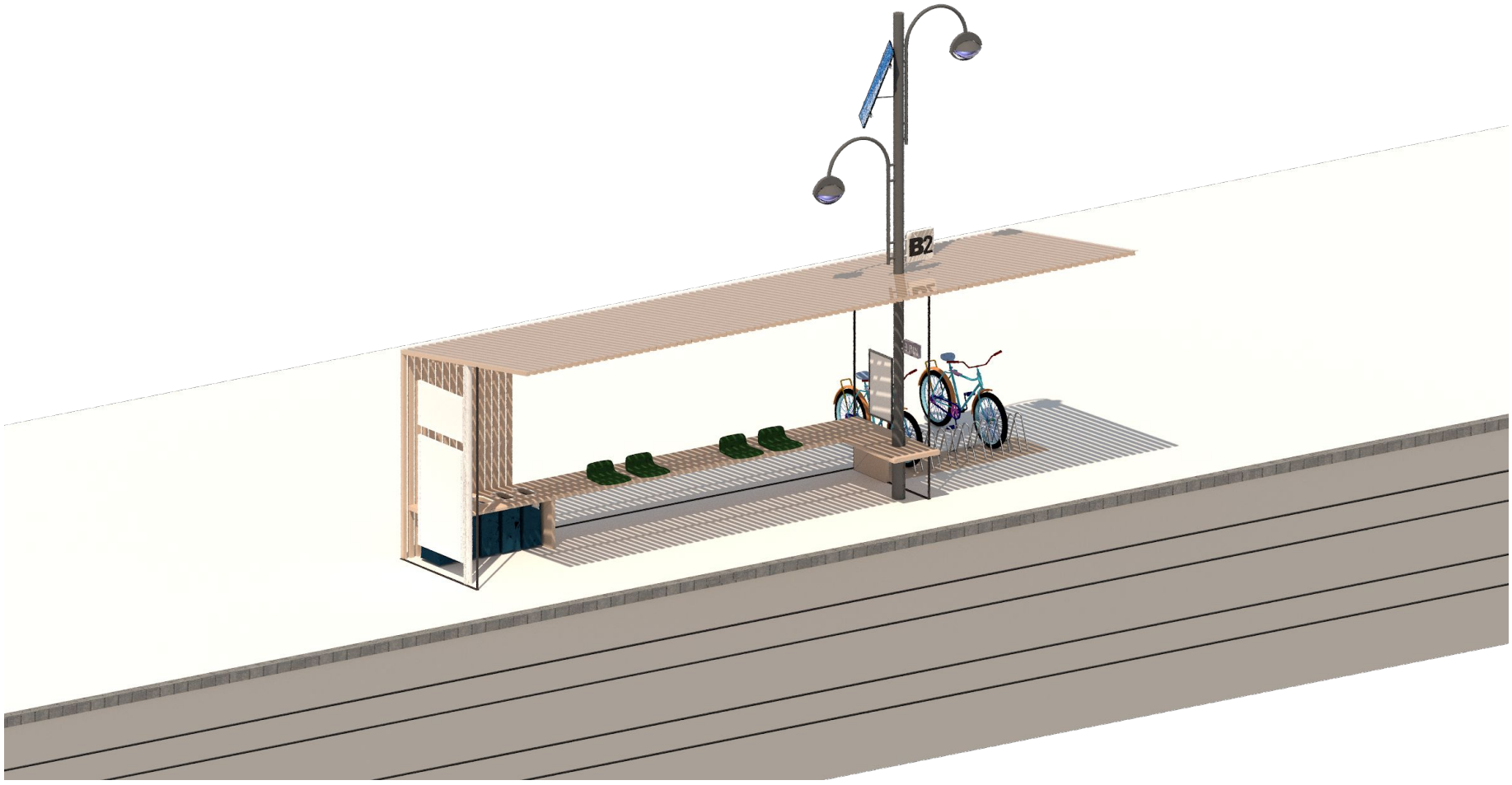


Large

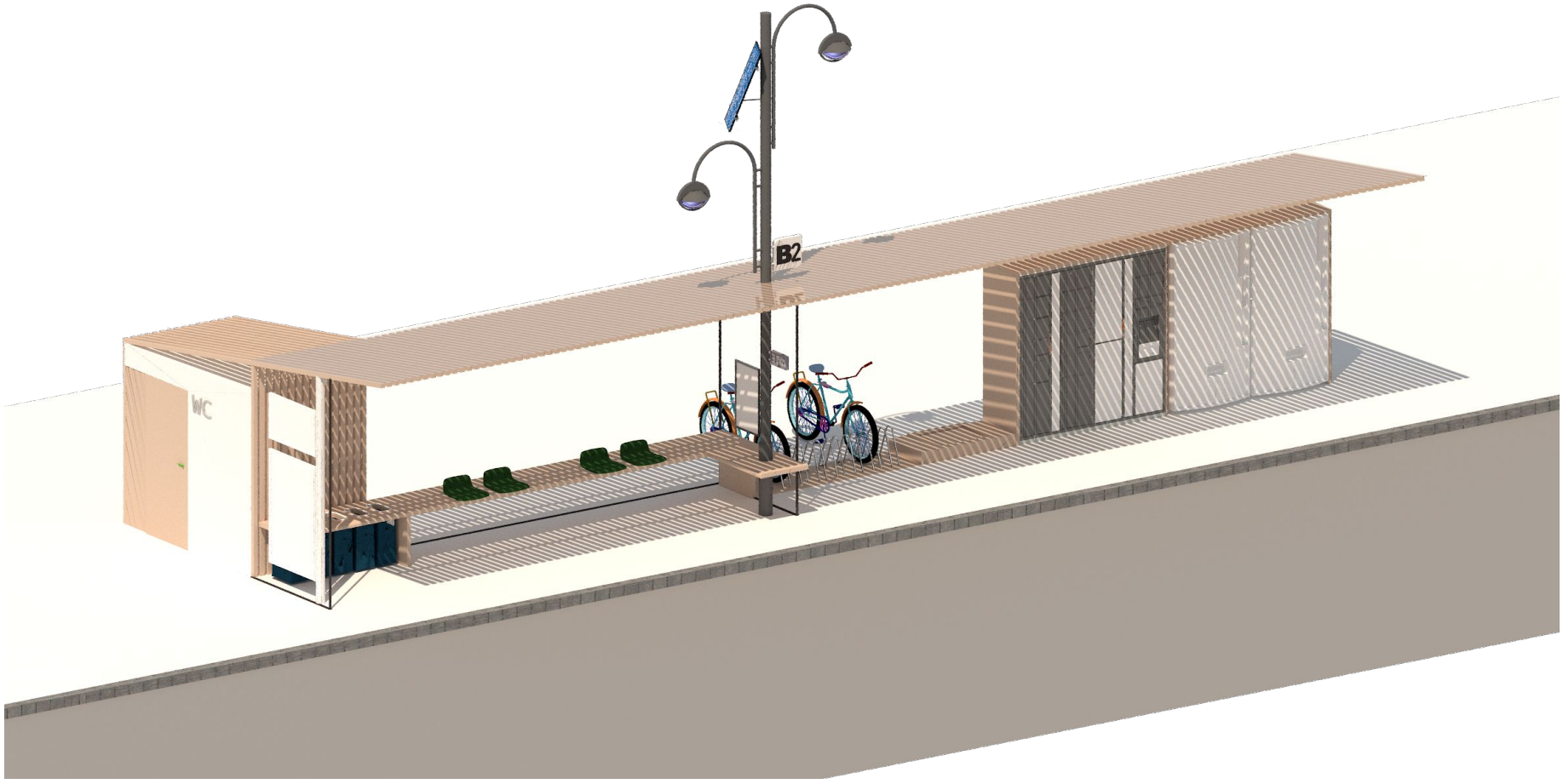
Type 5 - Large + Standard (Bus)



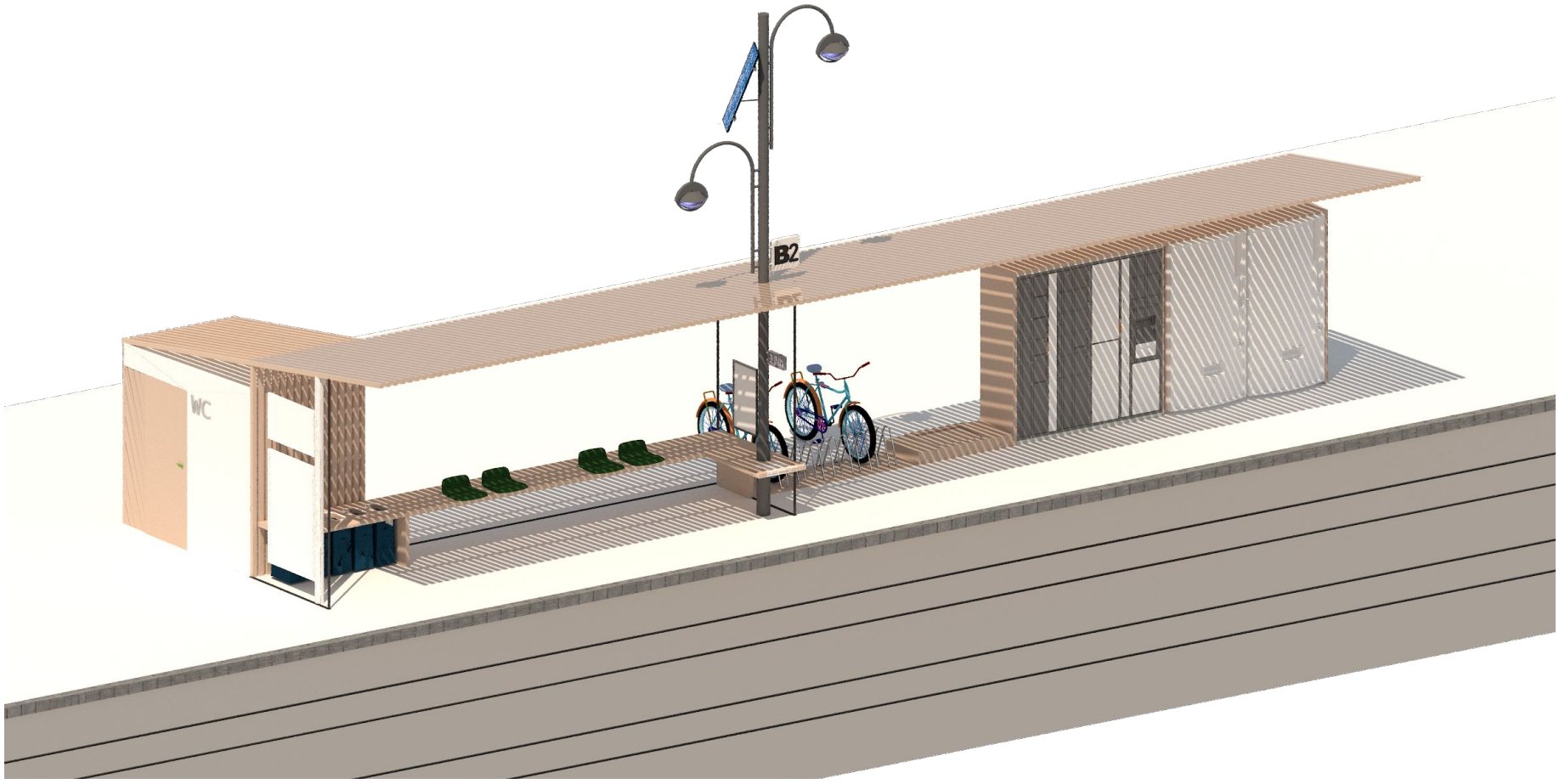
Type 5 - Large + Standard (Bus)



Type 6 - Large + Improved (Bus)

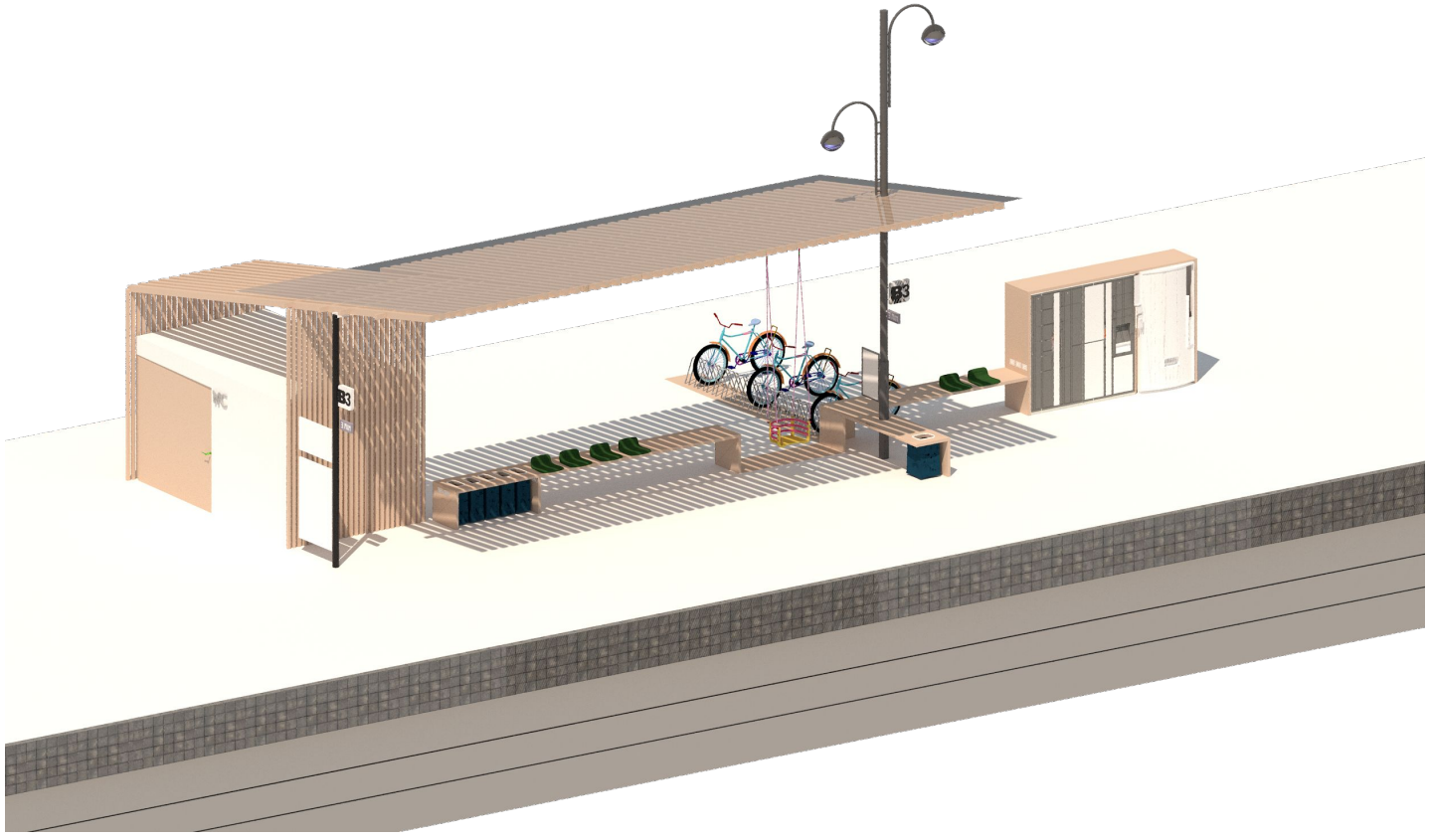


Type 6 - Large + Improved (Tram)



TRAIN

TRAIN - Type 1 - Small + Standard



TRAIN - Type 2 - Medium + Standard

