Green Cities: Integrated Sustainable Urban Transport for the City of Batumi and the Adjara Region

Project is implemented by the United Nations Development Programme **(UNDP)** with financial support of the Global Environmental Facility **(GEF)**

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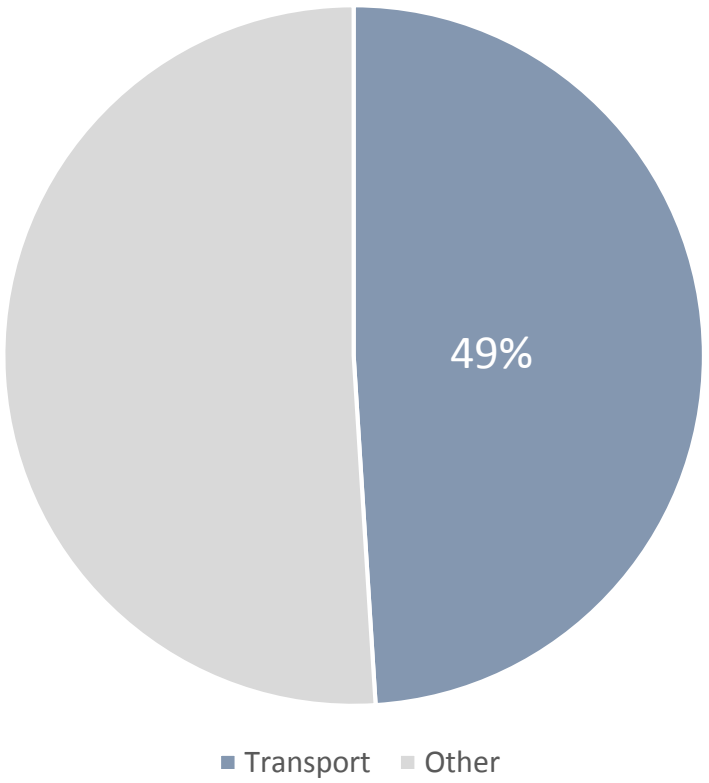
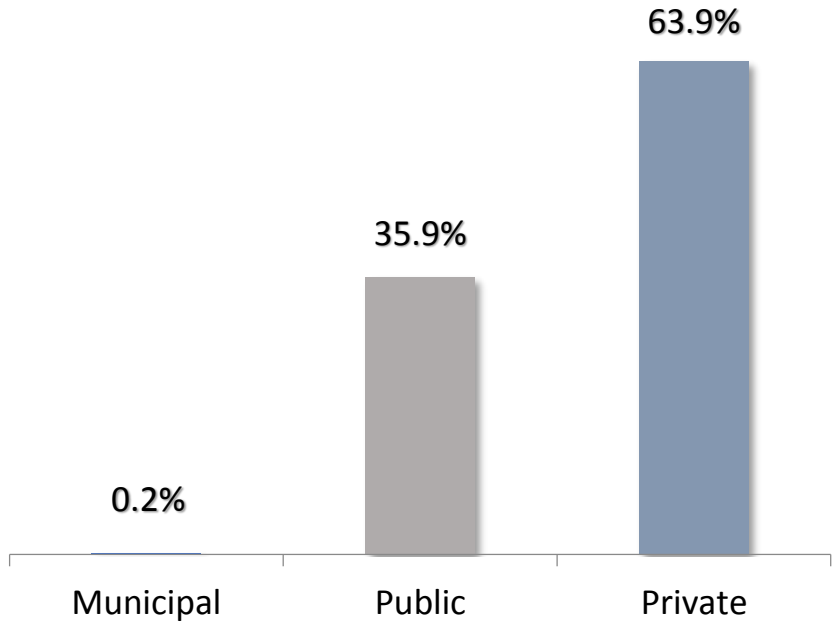
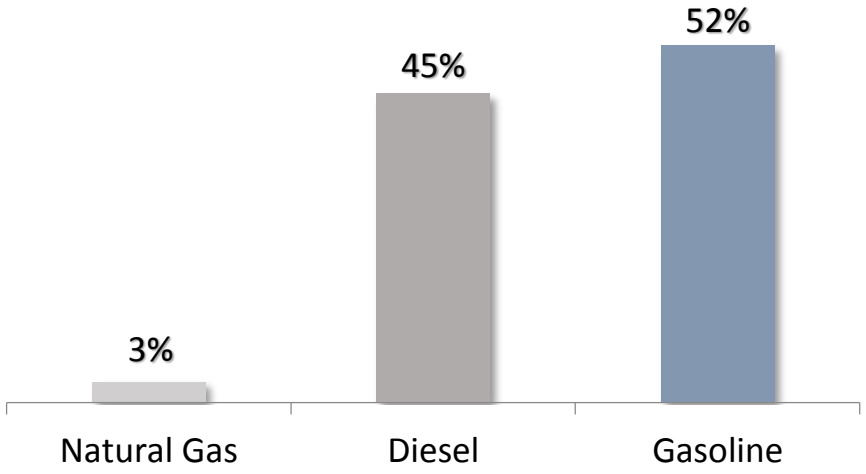
Project Manager

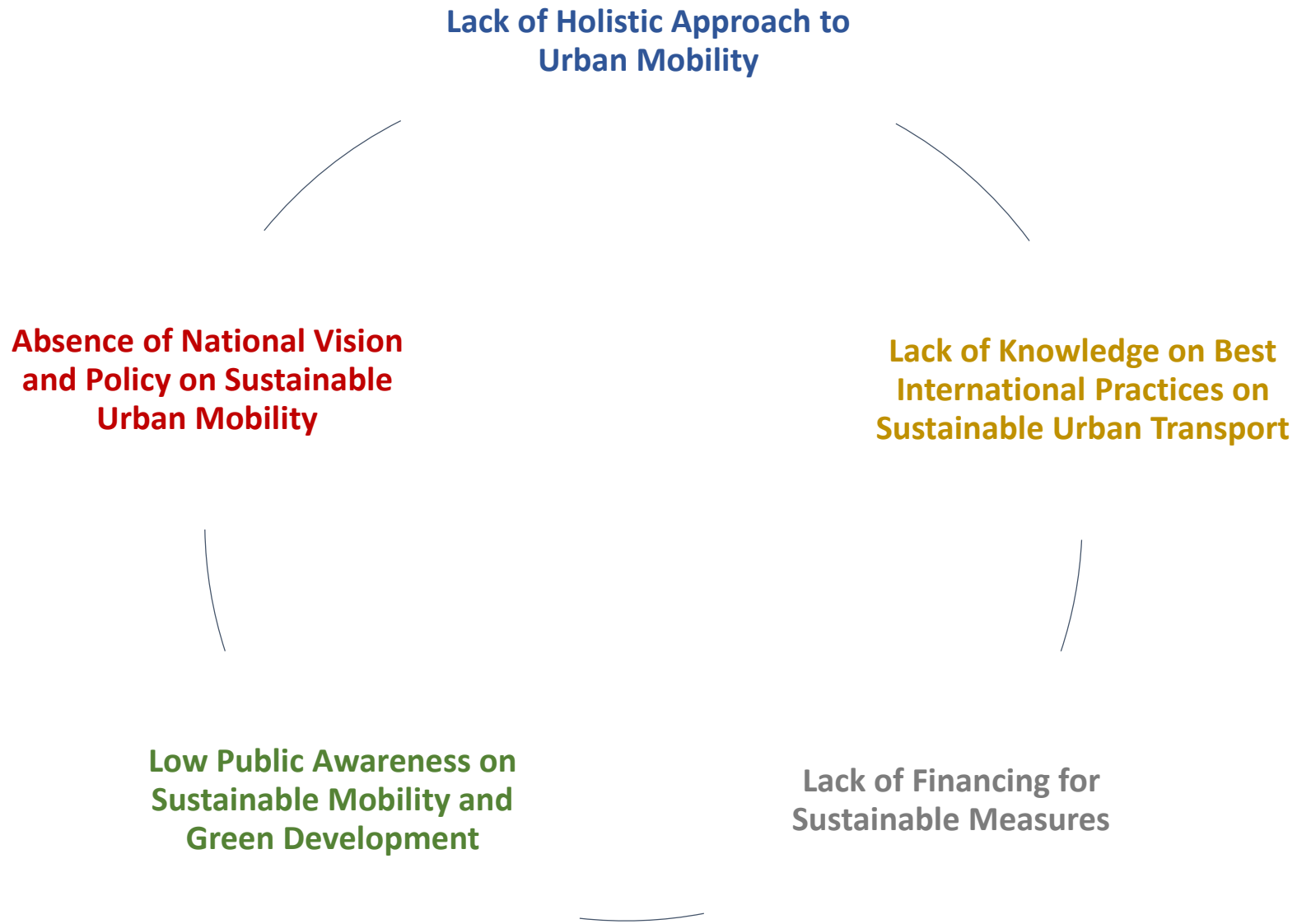
GHG Emission Inventory in Batumi / 2012





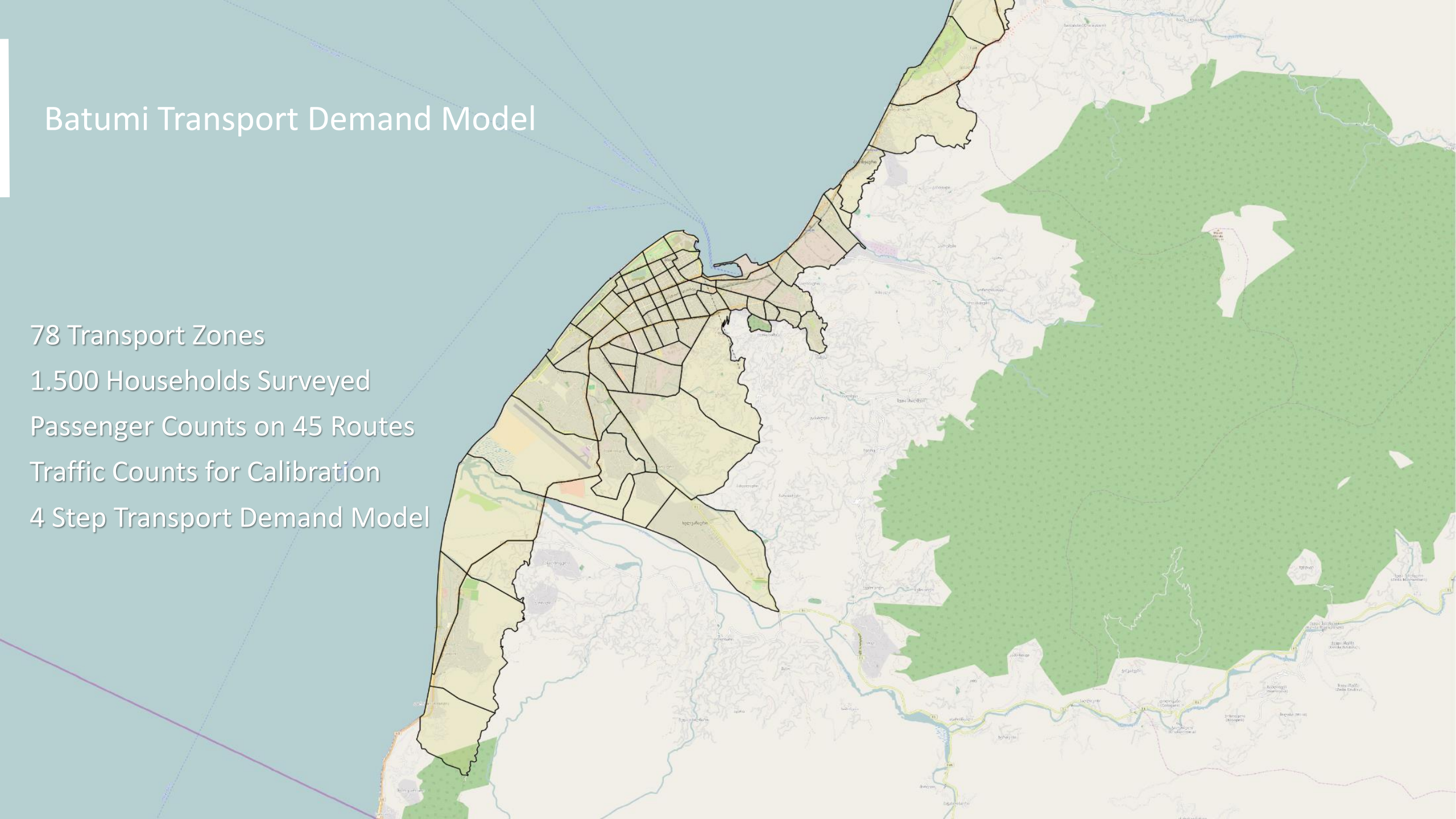


Obstacles to Sustainable Urban Mobility in Batumi



ISTBAR and Sustainable Development Goals

Batumi Transport Demand Model



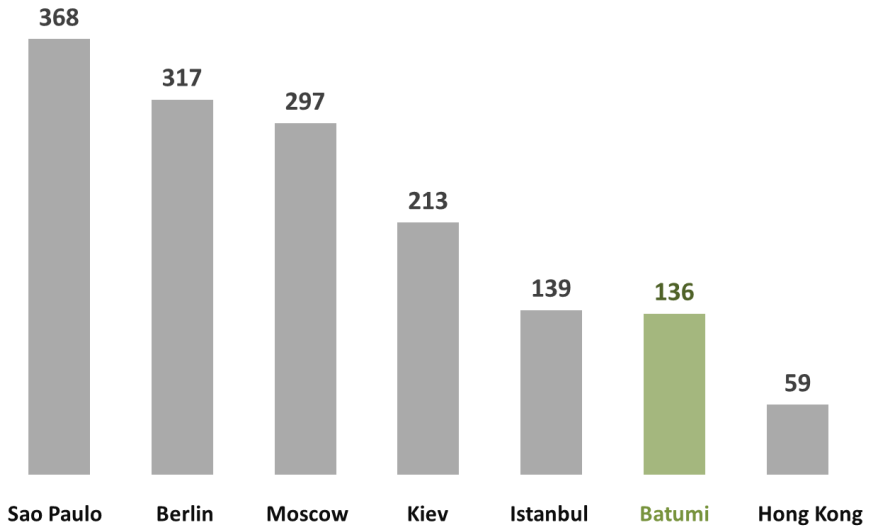
78 Transport Zones

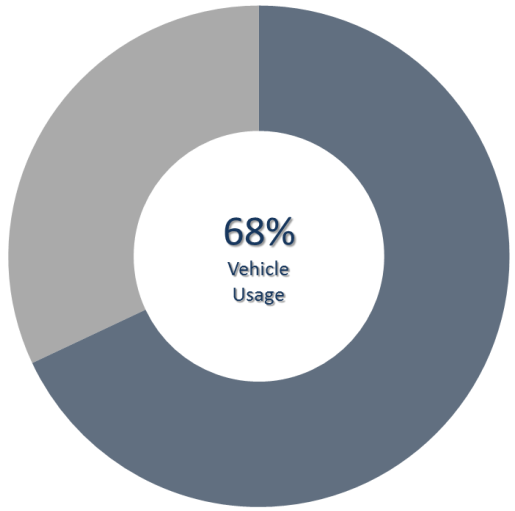
1.500 Households Surveyed

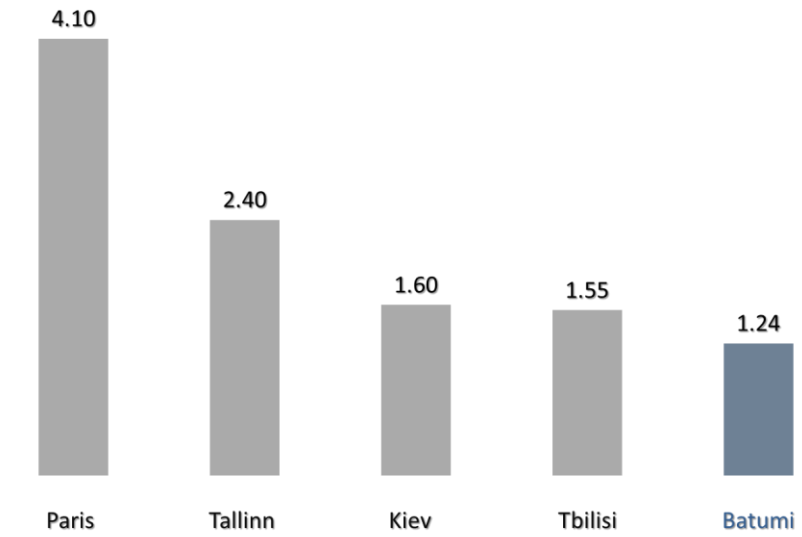
Passenger Counts on 45 Routes

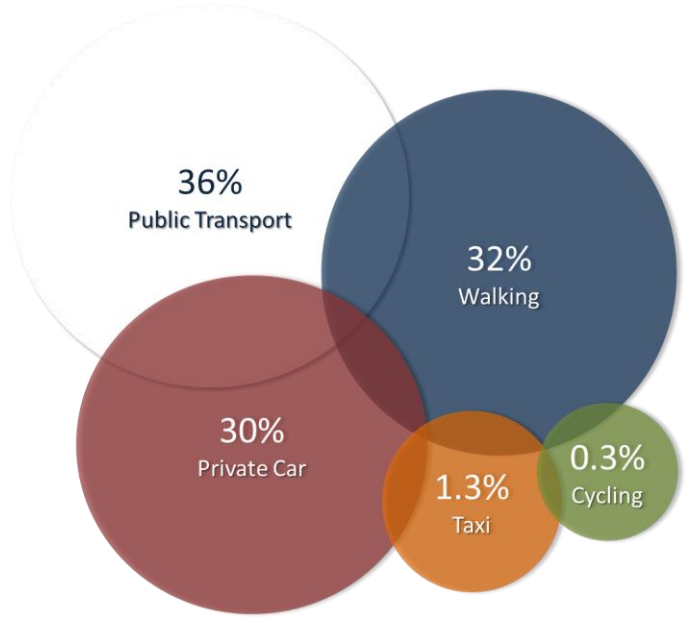
Traffic Counts for Calibration

4 Step Transport Demand Model


368
317
297
213
139
136
59
Sao Paulo
Berlin
Moscow
Kiev
Istanbul
Batumi
Hong Kong


68%
Vehicle
Usage


4.10
2.40
1.60
1.55
1.24
Paris
Tallinn
Kiev
Tbilisi
Batumi


36%
Public Transport
32%
Walking
30%
Private Car
1.3%
Taxi
0.3%
Cycling

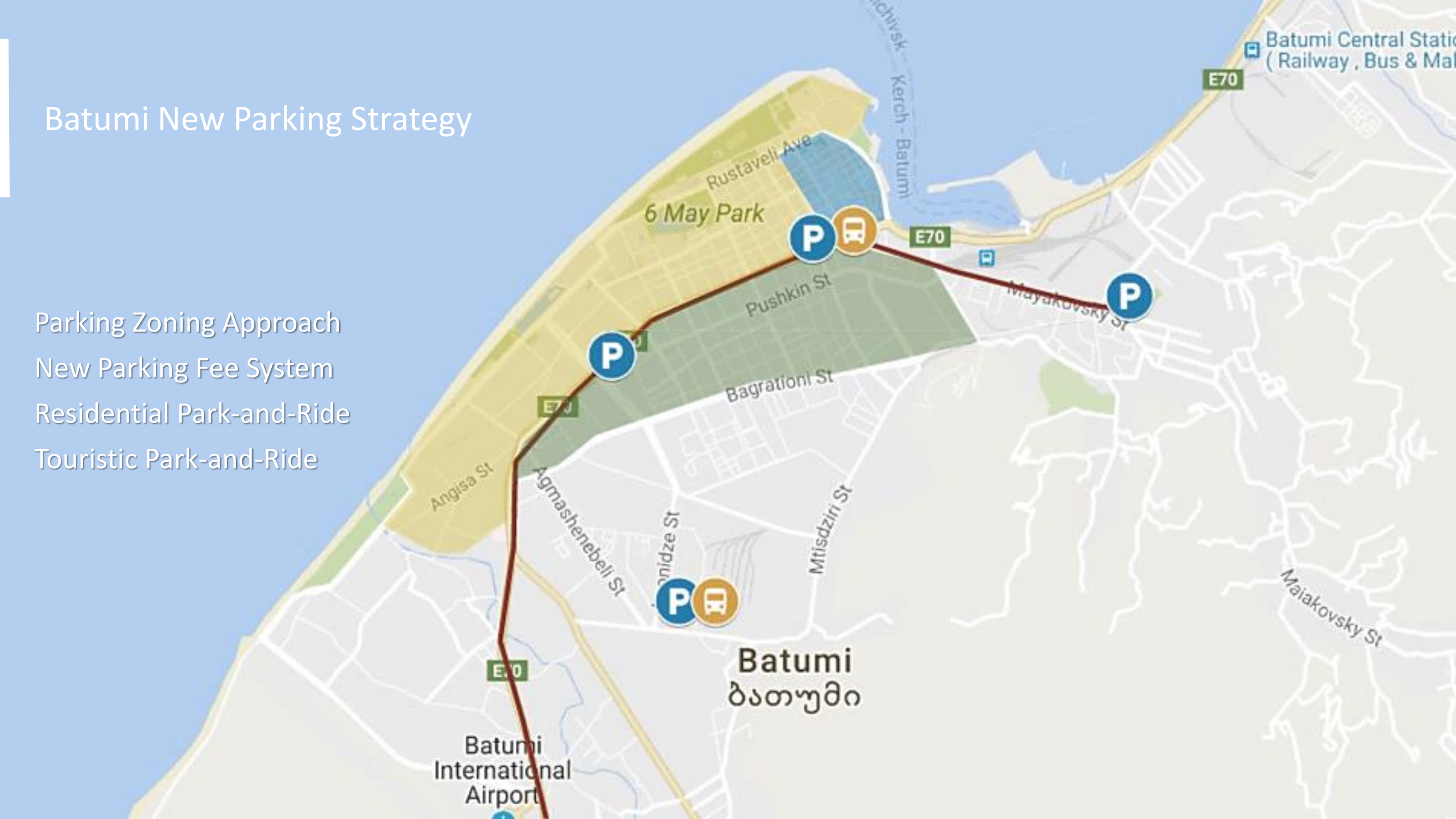
Batumi New Parking Strategy

Parking Zoning Approach

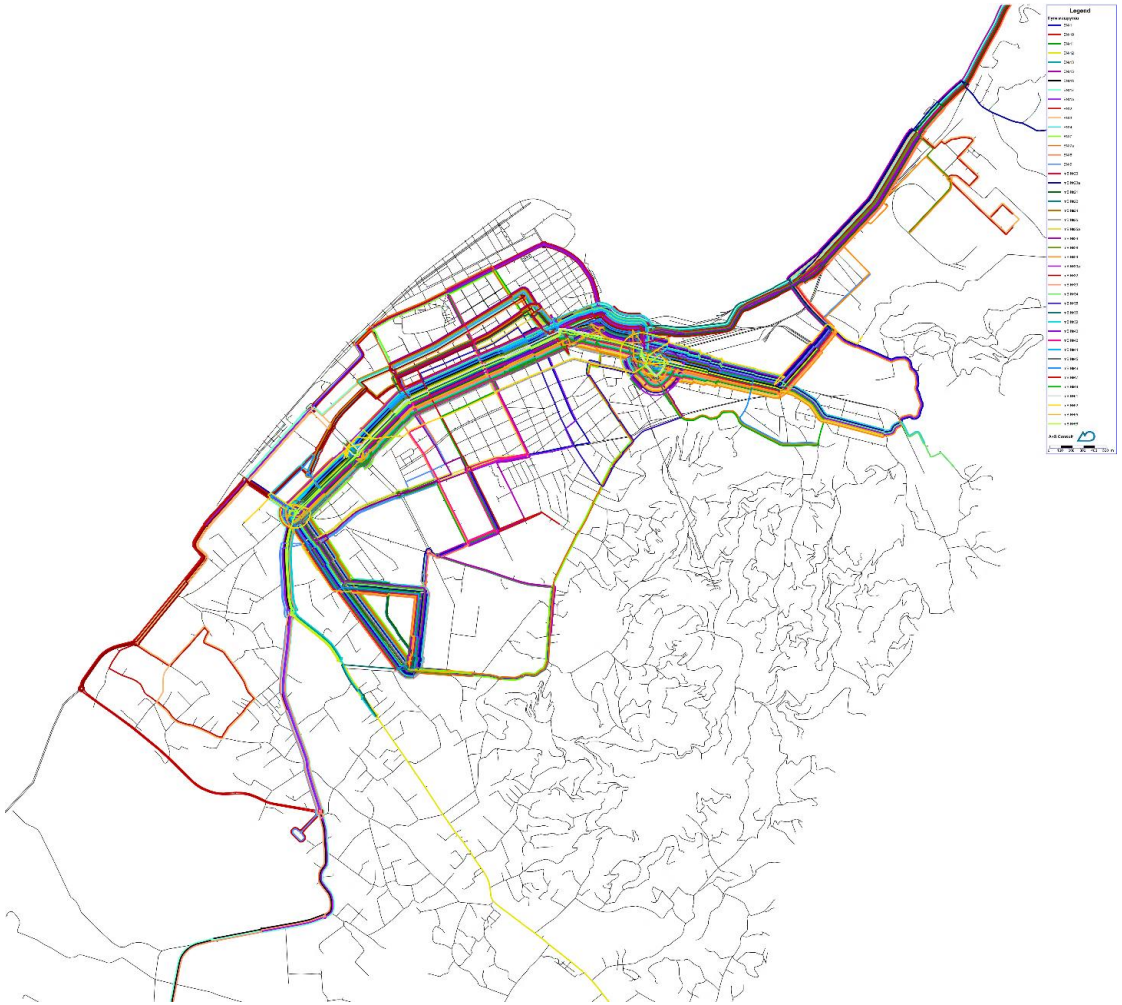
New Parking Fee System

Residential Park-and-Ride

Touristic Park-and-Ride



Public Transport Optimization Scenarios

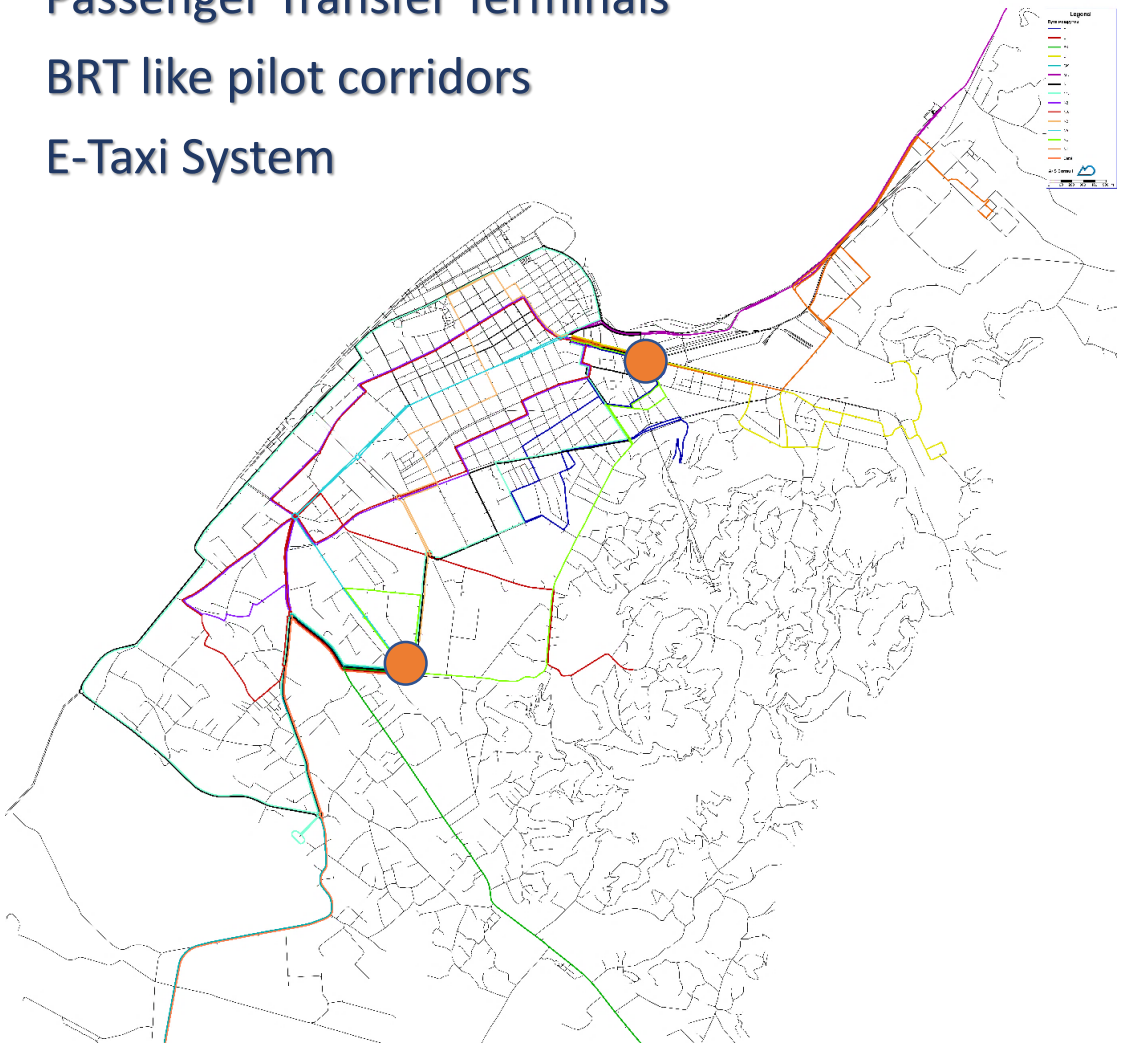


Public Transport Network Optimization

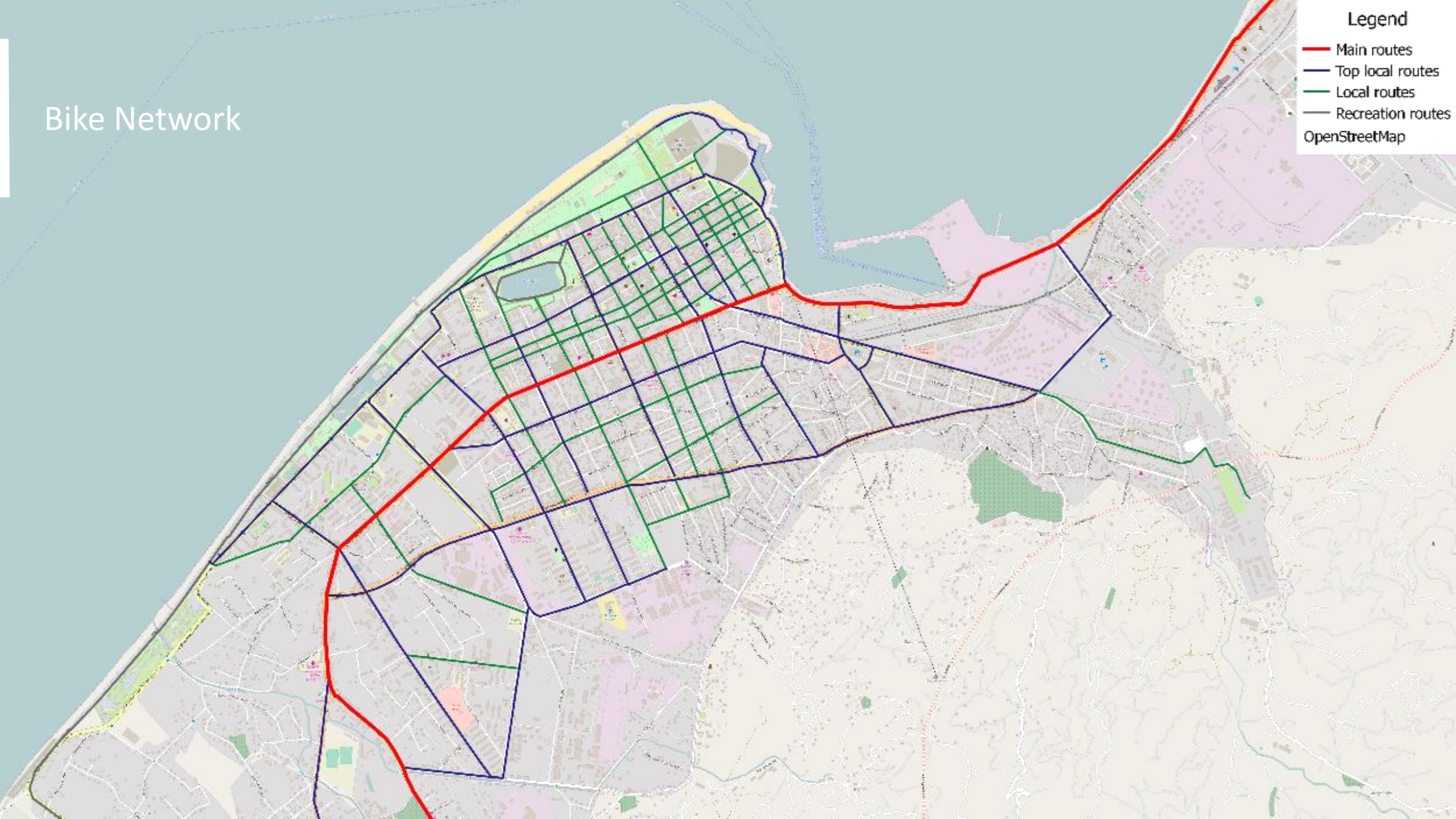
Passenger Transfer Terminals

BRT like pilot corridors

E-Taxi System

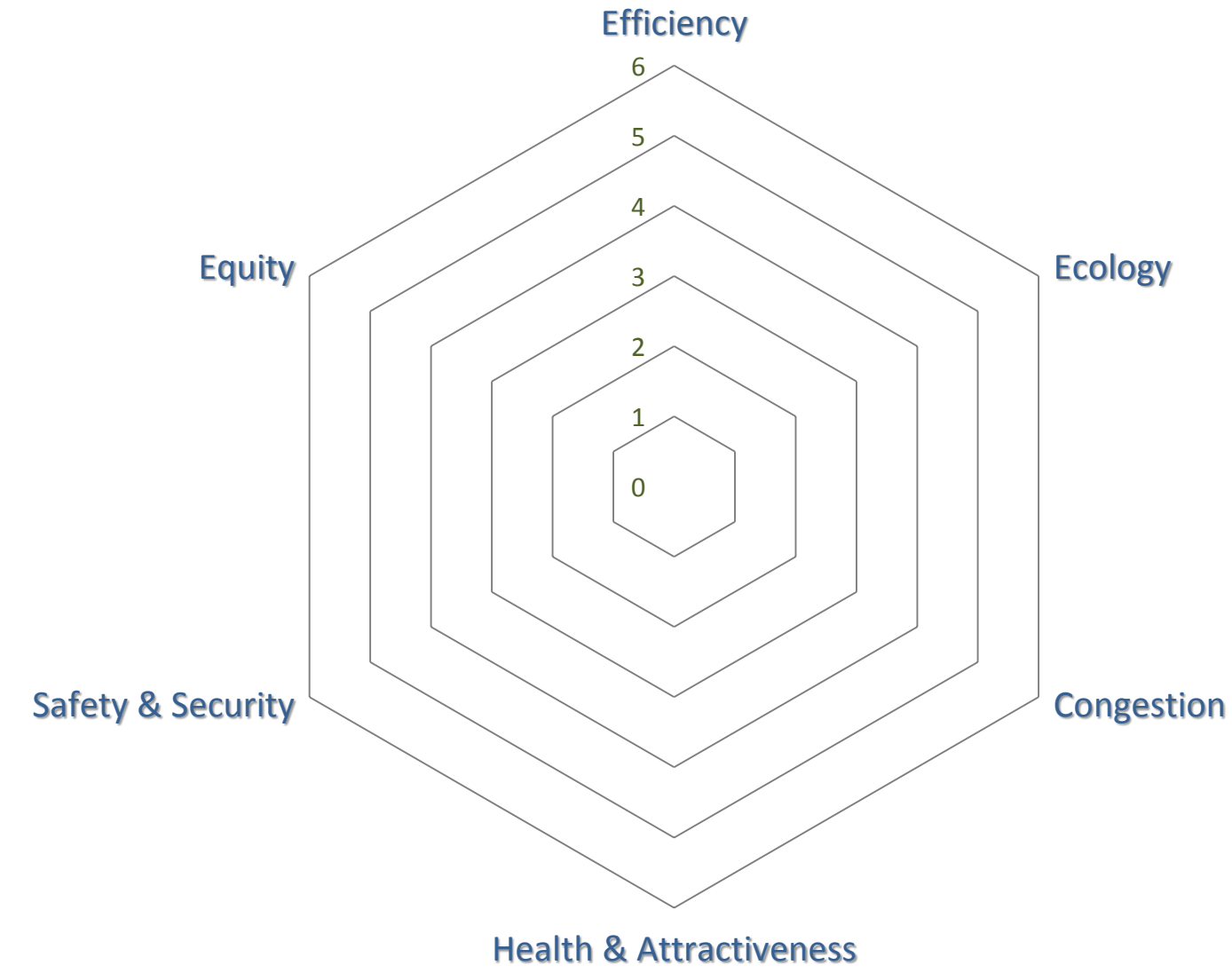


Bike Network



Batumi iSUMP

34 specific measures clustered into 7 package and evaluated against 6 criteria



Three Scenarios and GHG Emission Reduction

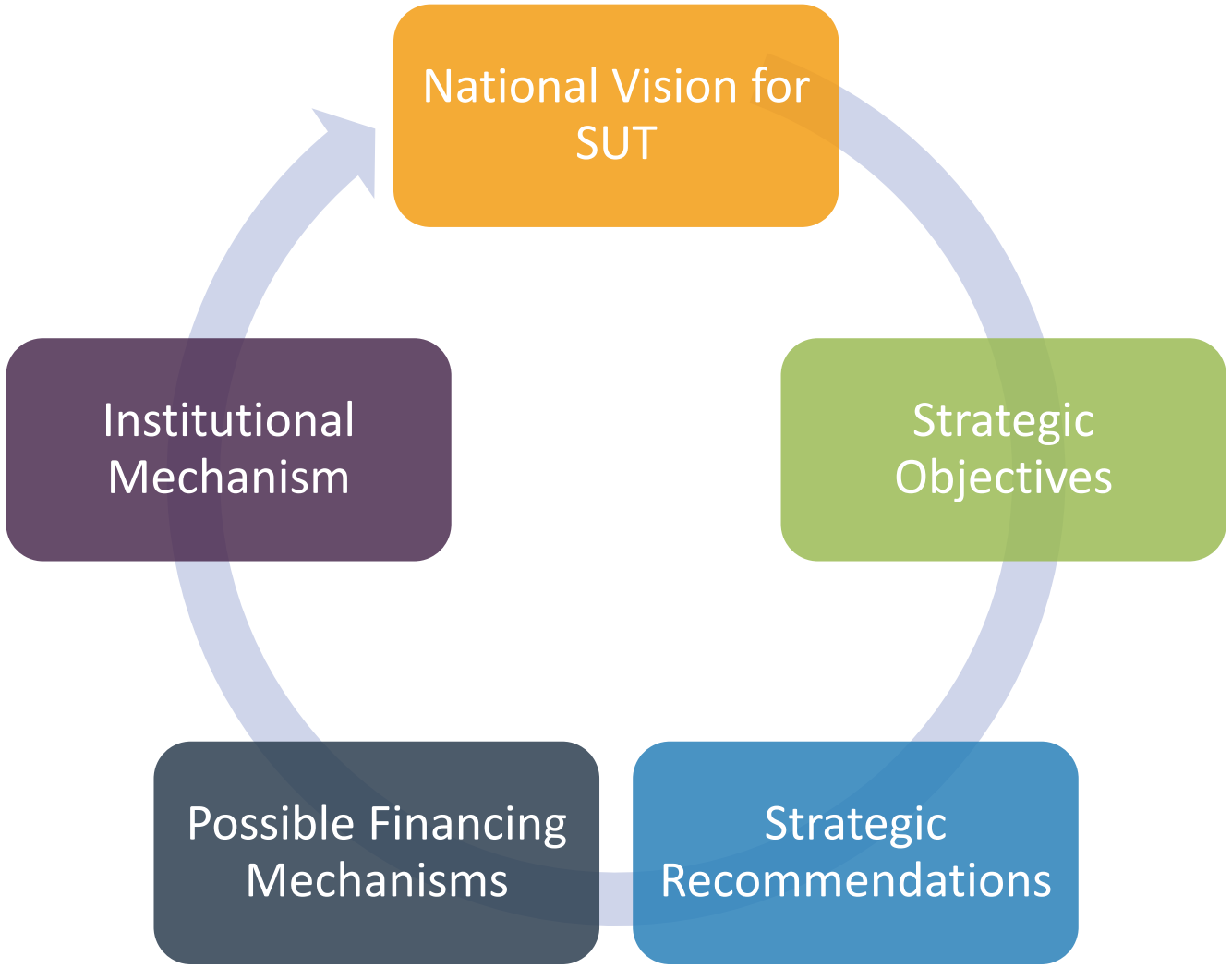
	Measure Selection		Off Season					On Season				
	Moderate	Full	Base	Moderate		Full		Base	Moderate		Full	
Modal Split					delta		delta			delta		delta
Bicycle			0.40%	0.80%	0.40%	1.20%	0.80%	0.40%	1.10%	0.70%	1.60%	1.20%
Private transport			34.70%	32.60%	-2.10%	32.40%	-2.30%	35.80%	33.30%	-2.50%	32.70%	-3.10%
Pedestrian			31.10%	28.90%	-2.20%	28.90%	-2.20%	30.10%	28.10%	-2.00%	28.00%	-2.10%
Public transport			33.90%	37.70%	3.80%	37.50%	3.60%	33.70%	37.60%	3.90%	37.80%	4.10%
Private Transport												
Veh-km traveled			749956.20	710841.60		707502.80		788690.90	739892.60		728643.70	
CO2 Emissions			172.49 tons/day	163.49 tons/day		162.73 tons/day		181.40 tons/day	170.18 tons/day		167.59 tons/day	
CO2 Reductions - overall private transport from modal shift				-9.00 tons/day		-9.76 tons/day			-11.22 tons/day		-13.81 tons/day	
Measure CO2 Reductions tons/day												
Bus Route Network Optimization - Including Replacement of Minibus Network and Bus Fleet renewal - intrinsic reduction effects	x	x		-24.57 tons/day		-24.57 tons/day			-24.57 tons/day		-24.57 tons/day	
Public Transport Reductions from private transport modal shift effects	x	x		-8.14 tons/day		-7.99 tons/day			-9.52 tons/day		-10.68 tons/day	
P&R Tourist - potential reduction	x	x							-4.33 tons/day		-4.33 tons/day	
P&R Commuters - potential reduction		x				-4.45 tons/day					-4.45 tons/day	
Bike Infrastructure Improvements - modal shift effects from private transport	x	x		-0.86 tons/day		-1.78 tons/day			-1.71 tons/day		-3.13 tons/day	
CO2 Reduction TOTAL				**-33.57 tons/day**		**-38.78 tons/day**			**-40.12 tons/day**		**-47.16 tons/day**	

Steps Ahead

1. Implementing BRT-like system
2. Piloting new Parking Policy near Old City
3. Extending bicycle network at least by 6-km
4. Low-emission buses

Video Simulation of Demo-Corridor

National Framework for SUT



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