Act TravelWise

Webinar

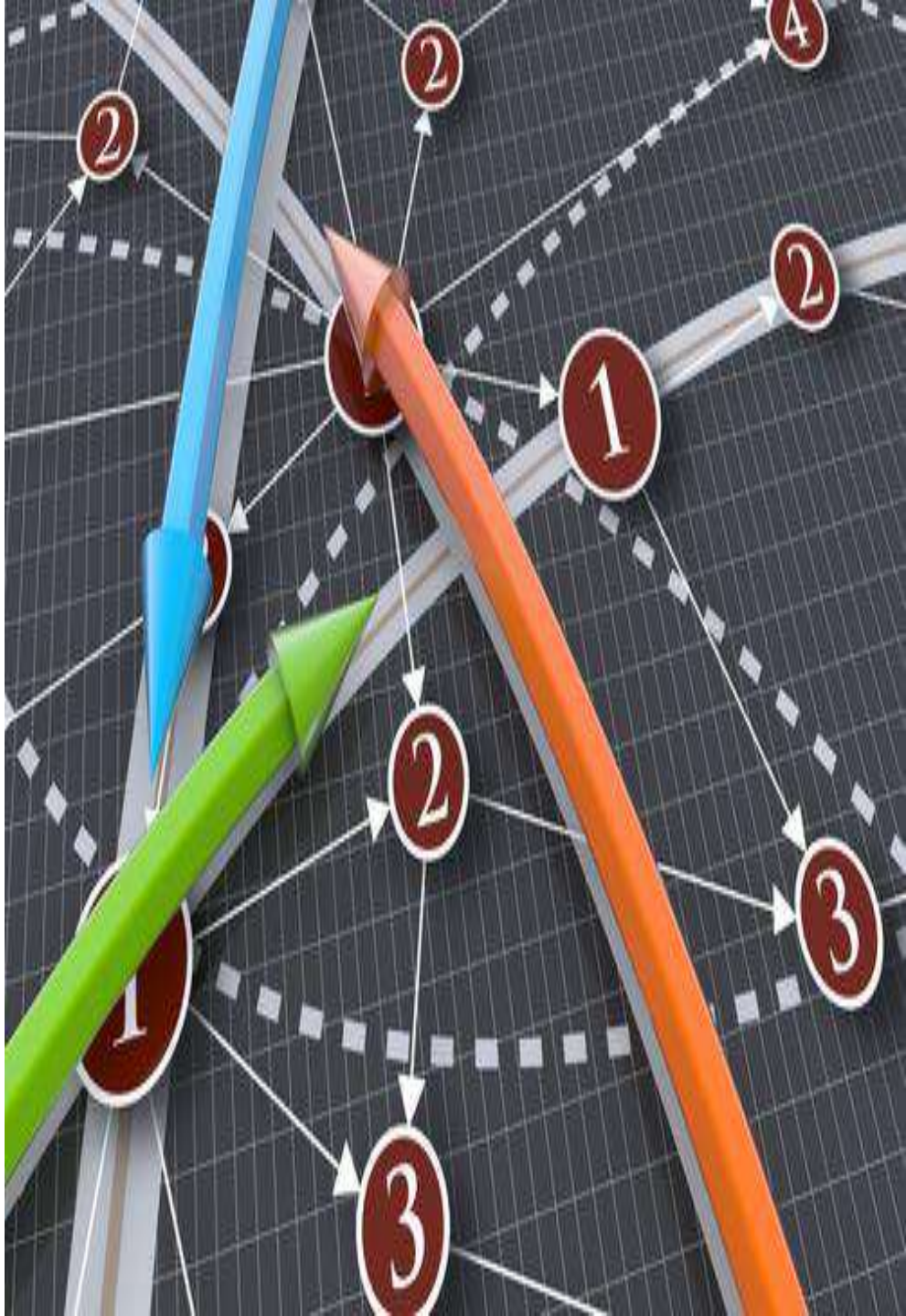
Athens Great Walk transformation project

George Yannis
NTUA Professor

Monday, 14 September 2020

Outline

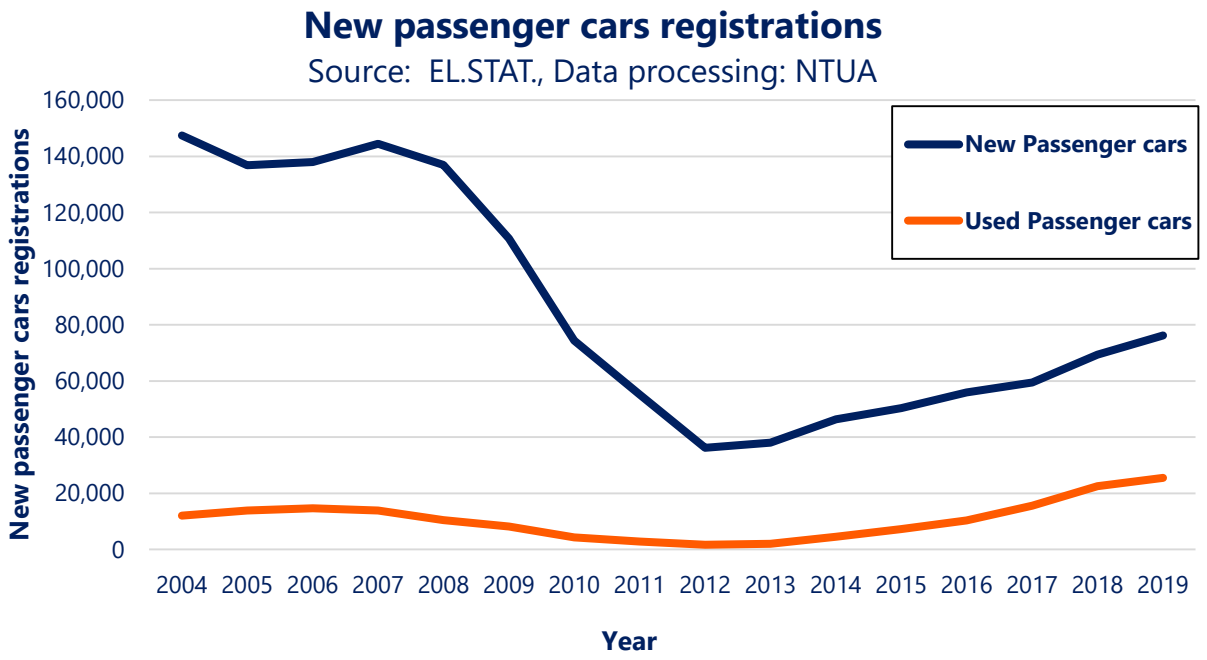
1. Current Mobility situation in Athens
2. New Mobility Interventions
3. Assessment
4. General Comments

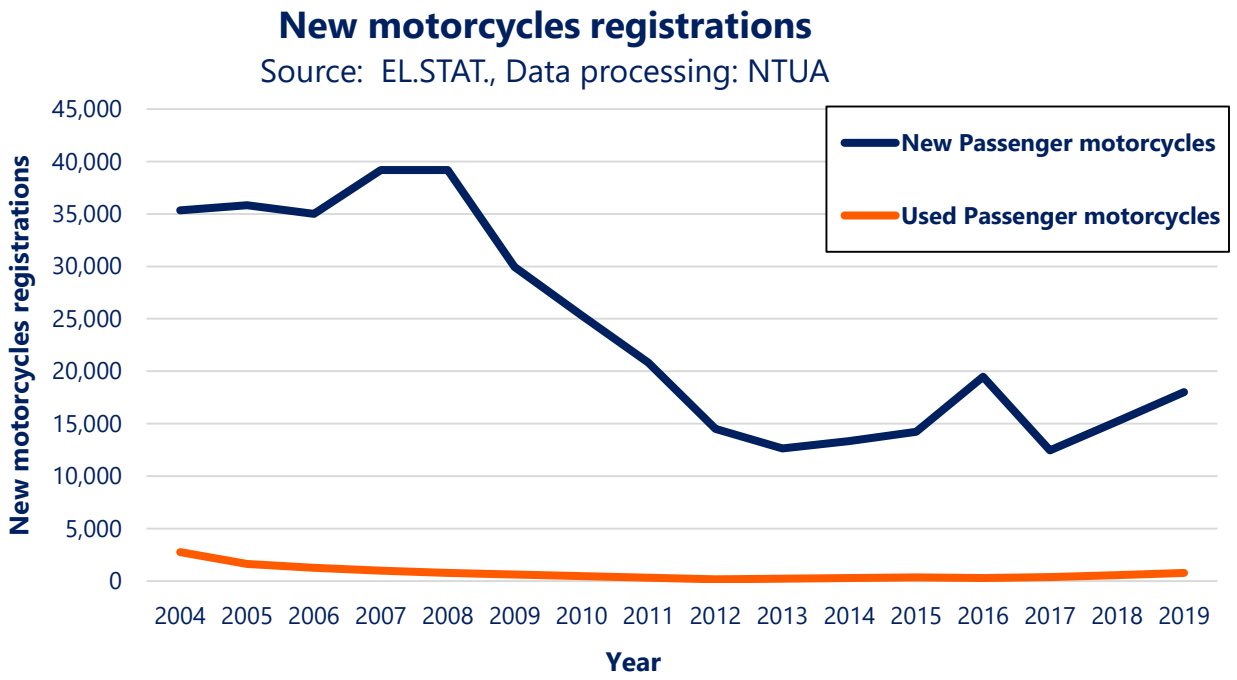


Current Mobility situation in Athens

- Vehicle fleet
- Traffic
- Public Transport

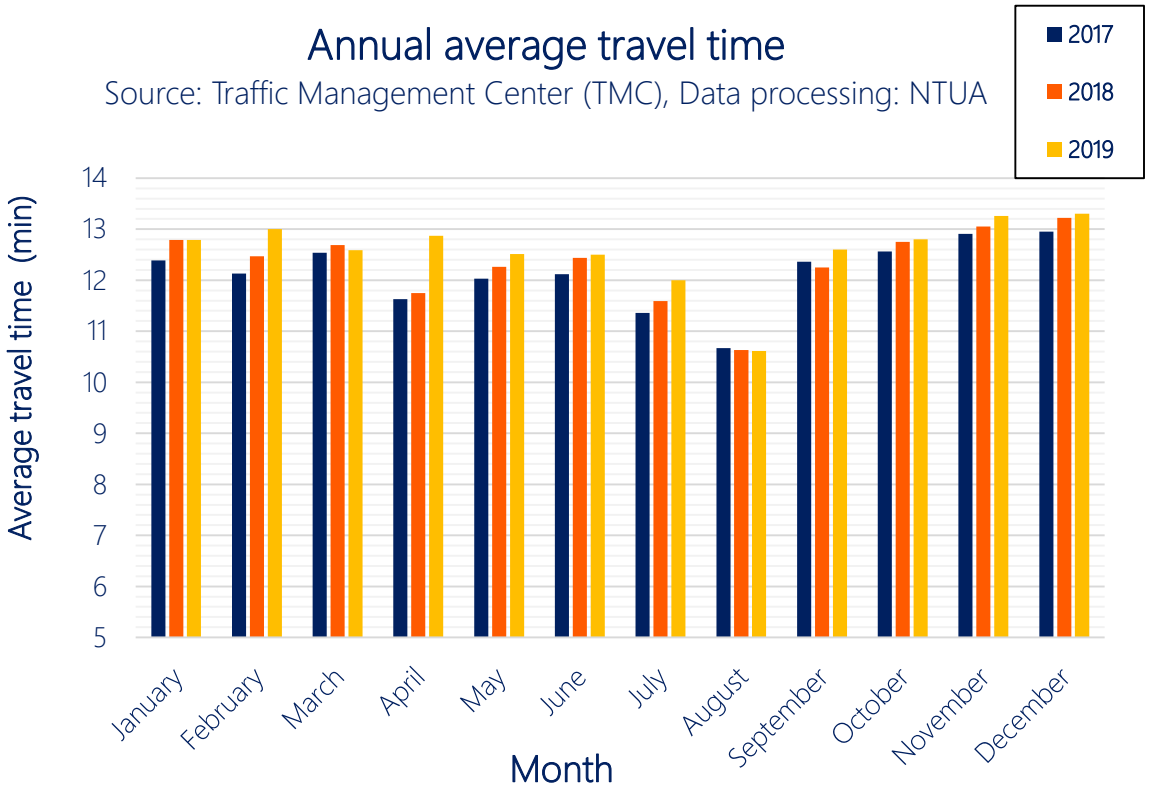
Vehicle Fleet

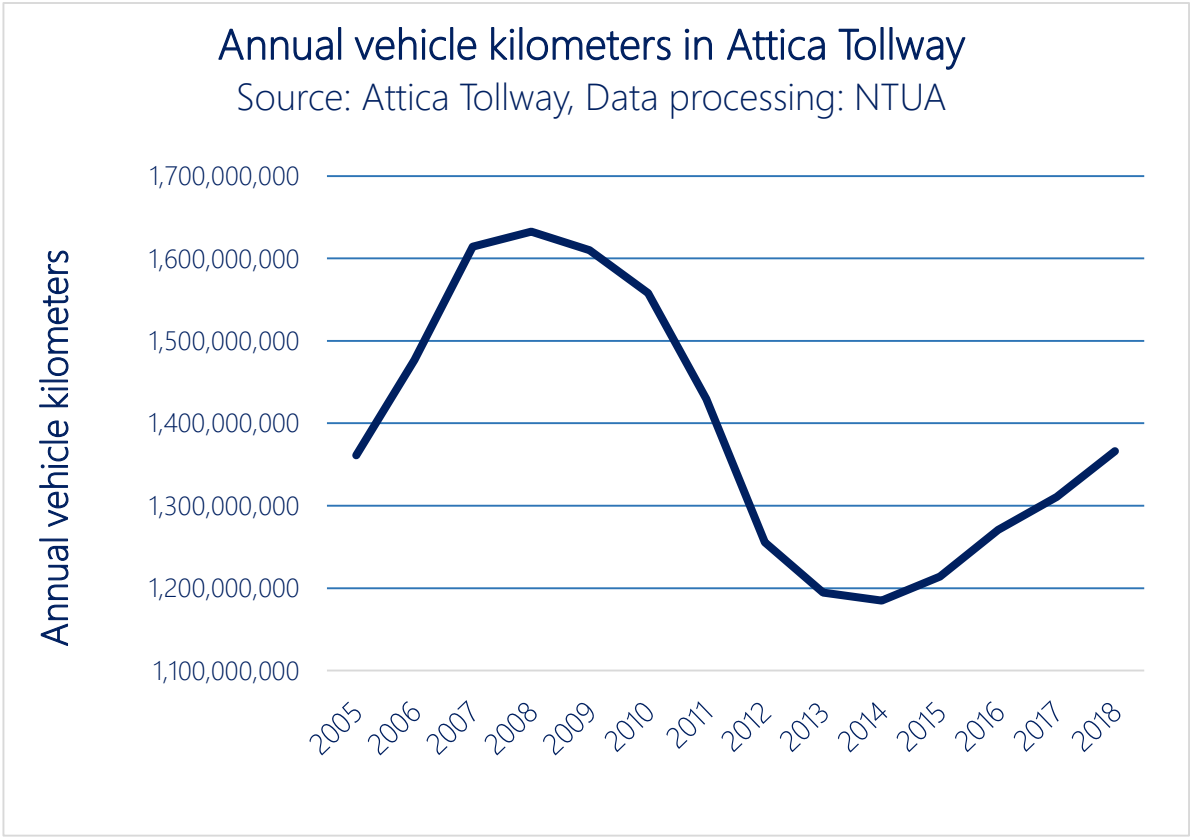




- During 2009-2013, a remarkable reduction of new passenger cars and motorcycles registrations was identified
- There are approximately 14.000 taxis operating in Athens
- During 2019, Public Transport fleet consisted of 1.725 thermal and 291 electric buses
- Since early 2019, micromobility services are operating in Athens

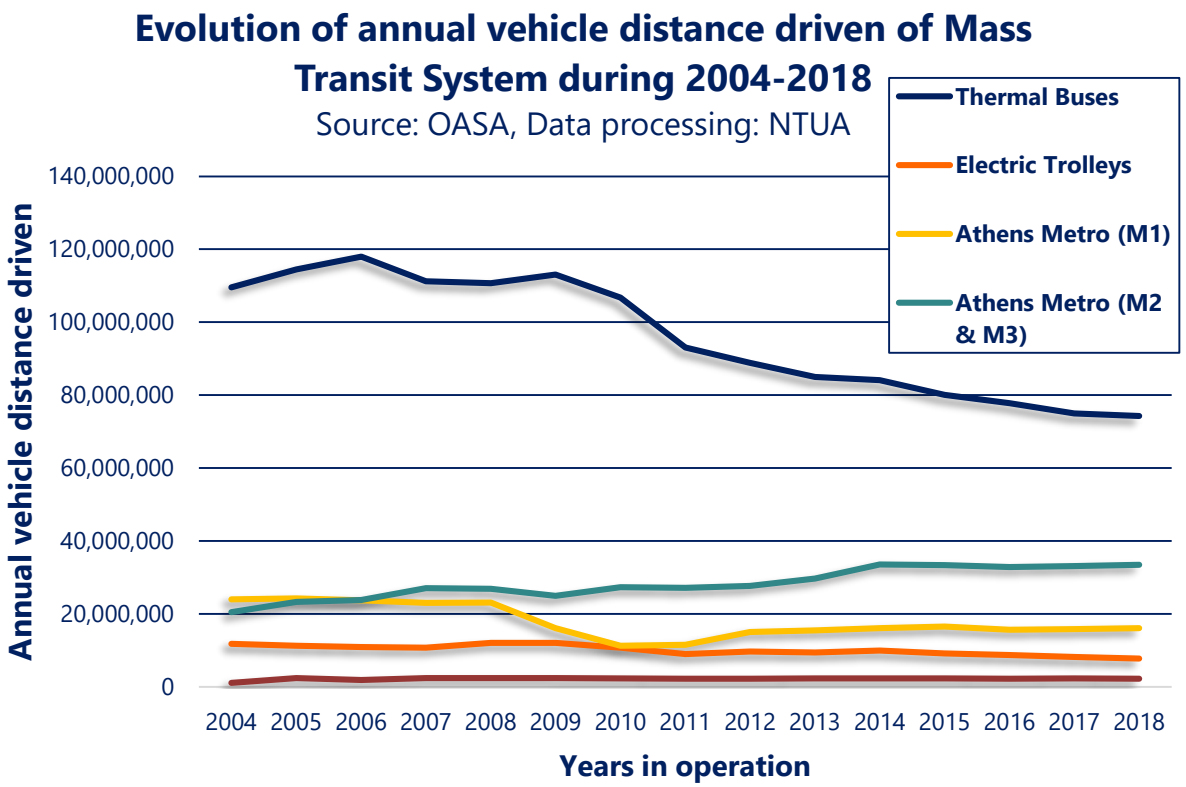
Traffic

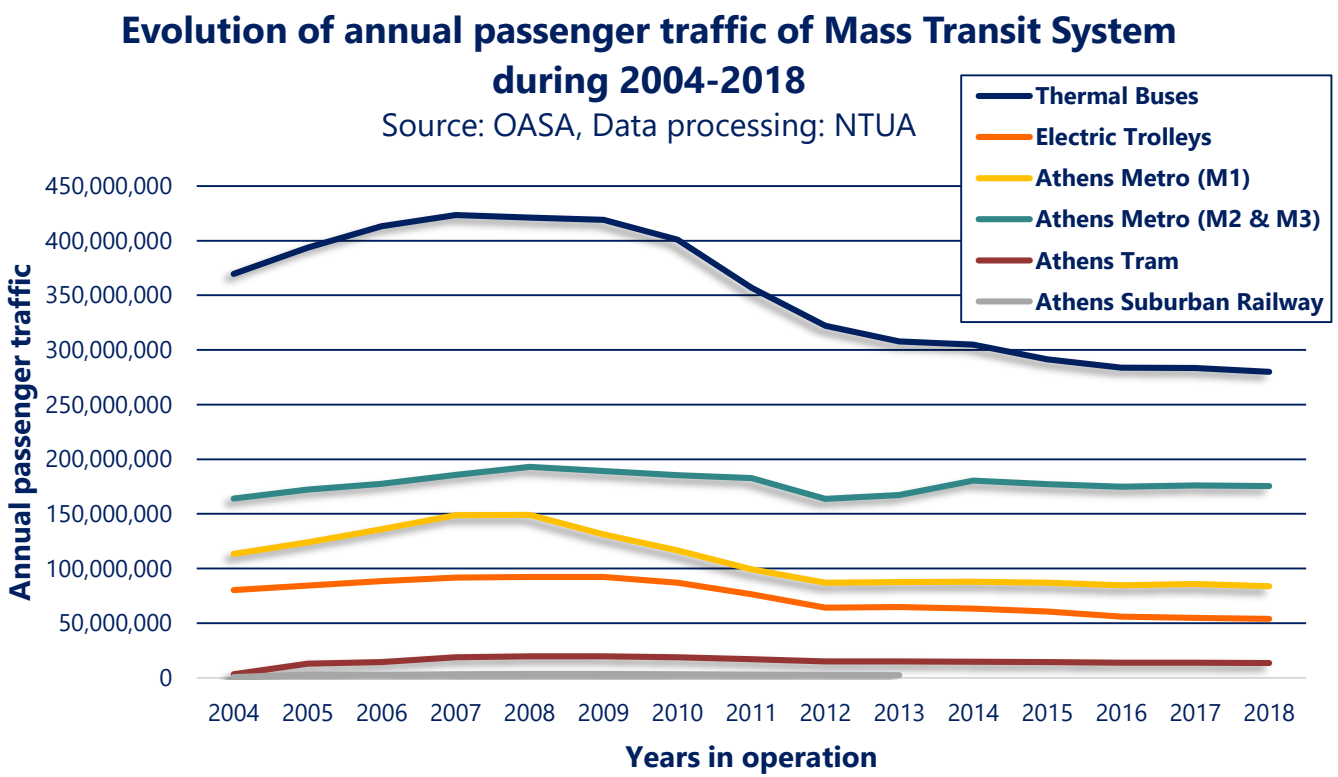




- The higher average travel time is in November and December, while the lower in August
- An increase in average travel time was identified in 2019, compared to the last three years
- A remarkable increase in annual vehicle kilometers in Attica Tollway was found during 2014-2018

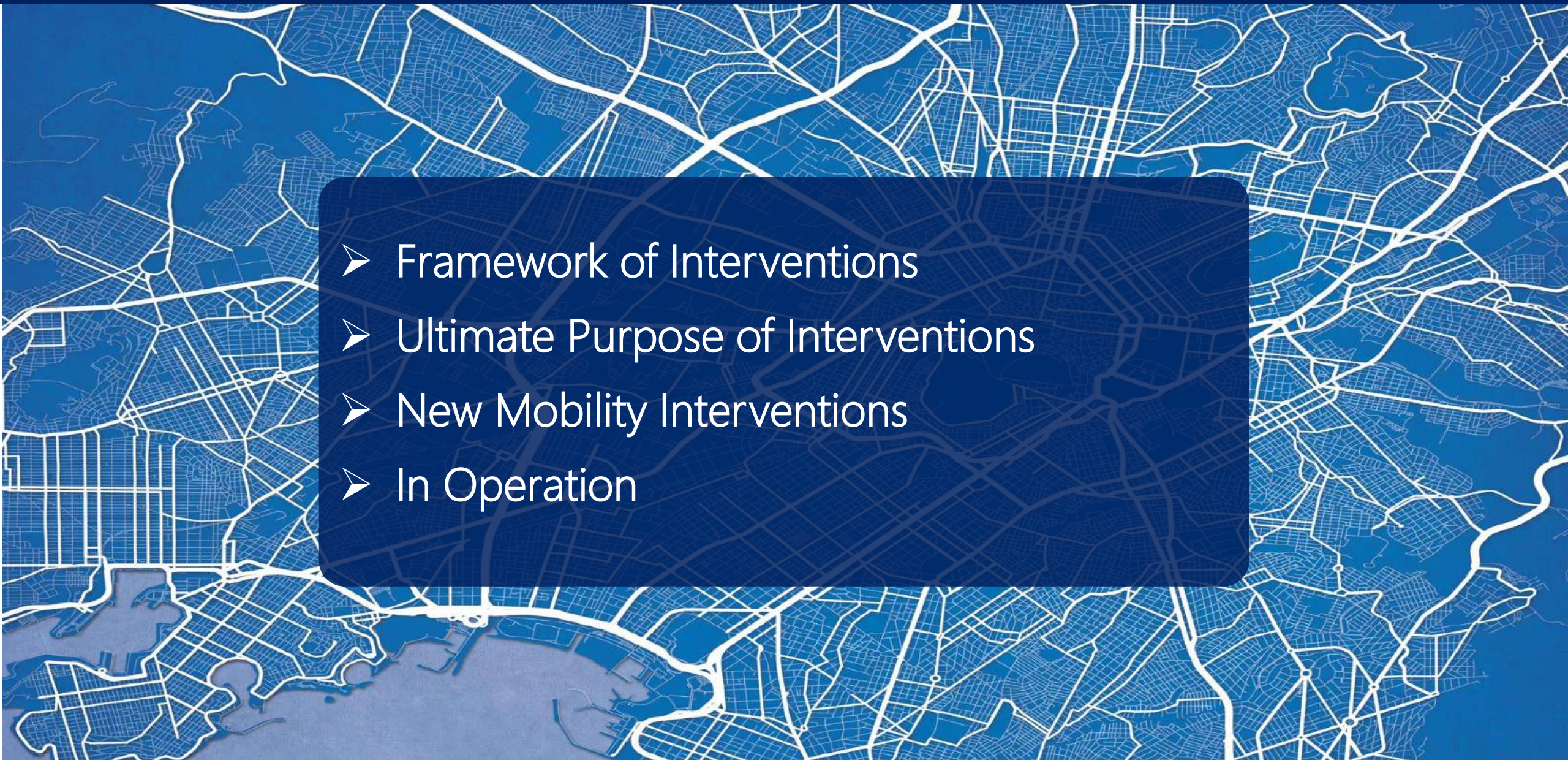
Public Transport





- Reduction of the number of passengers in buses, while vehicle kilometres of buses remained stable
- Reduction in vehicle kilometers of Athens Metro, while number of passengers remained stable

New Mobility Interventions



- Framework of Interventions
- Ultimate Purpose of Interventions
- New Mobility Interventions
- In Operation

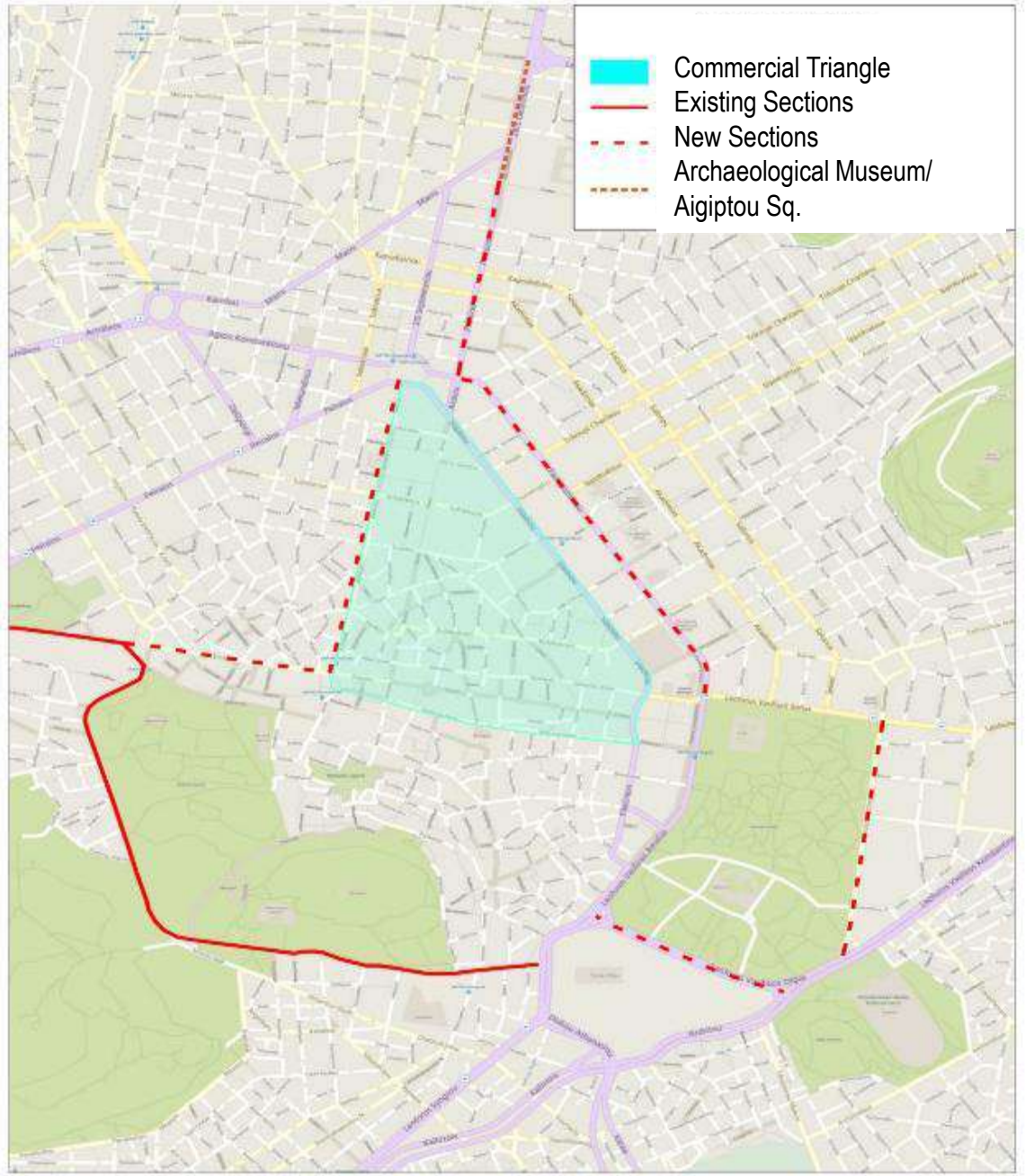
Framework of Interventions

The interventions are part of the new policy of upgrading the Public Space in Athens consisting of two major urban interventions:

- The Athens Great Walk
  (upgrade and regeneration of road and pavement infrastructure)

- Commercial Triangle and Plaka free of vehicles
  (special traffic and parking regulations)

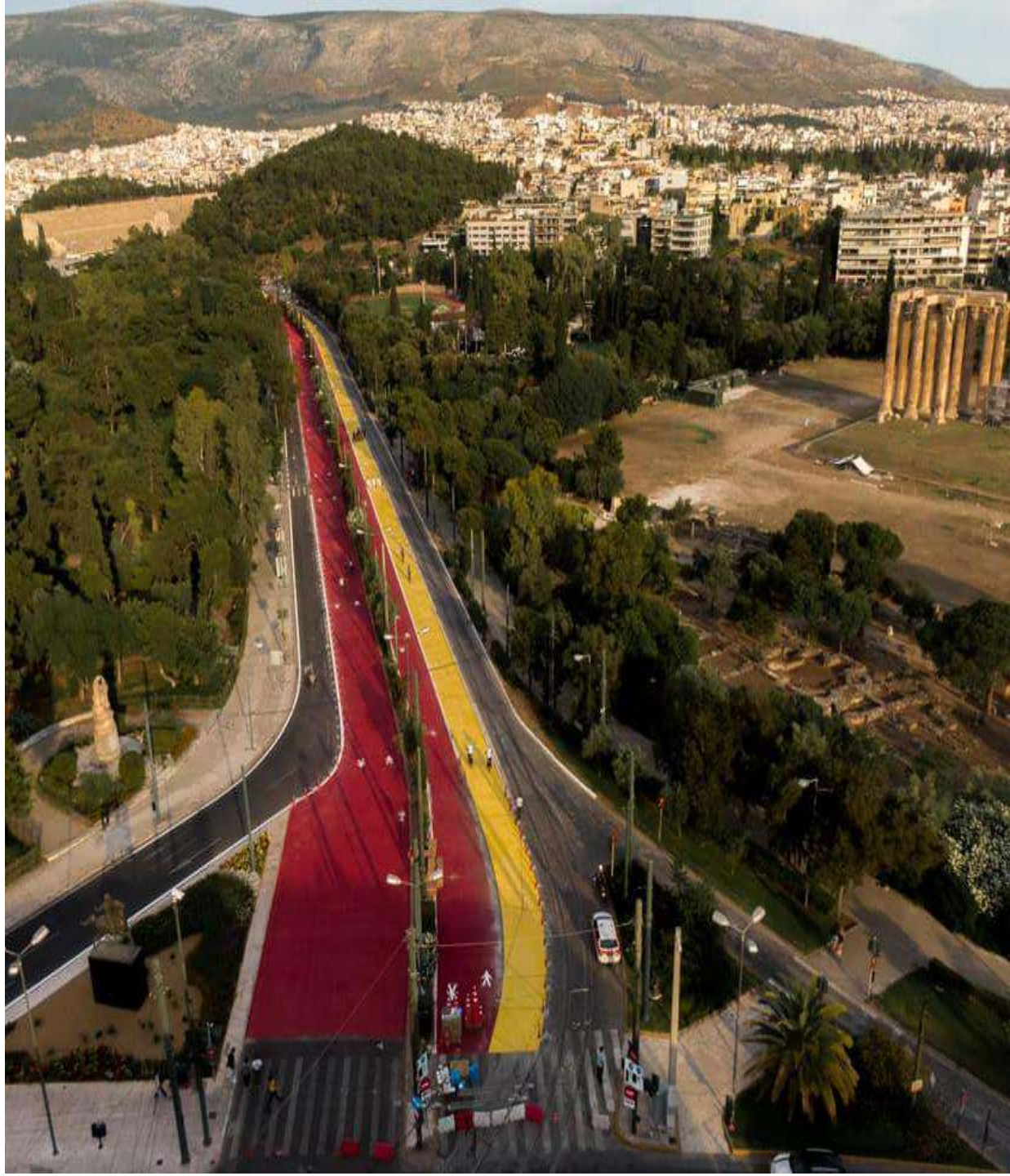
Regain of public space from passenger cars



Ultimate Purpose of Interventions

- New quality in urban mobility
  - Comfortable Trips
  - Green Trips
  - Safe Trips
  - Market stimulus (trade, tourism)
  - New modern image of the city

- The proposed interventions are part of the new mobility policy of Athens City, and are harmonized with both the under development Sustainable Urban Mobility Plan and the related trends in European cities.



Mobility Interventions

a. Increase of Sidewalks in Central Axes

- Panepistimiou
- Syntagma Square

b. Streets free of passenger cars and motorcycles

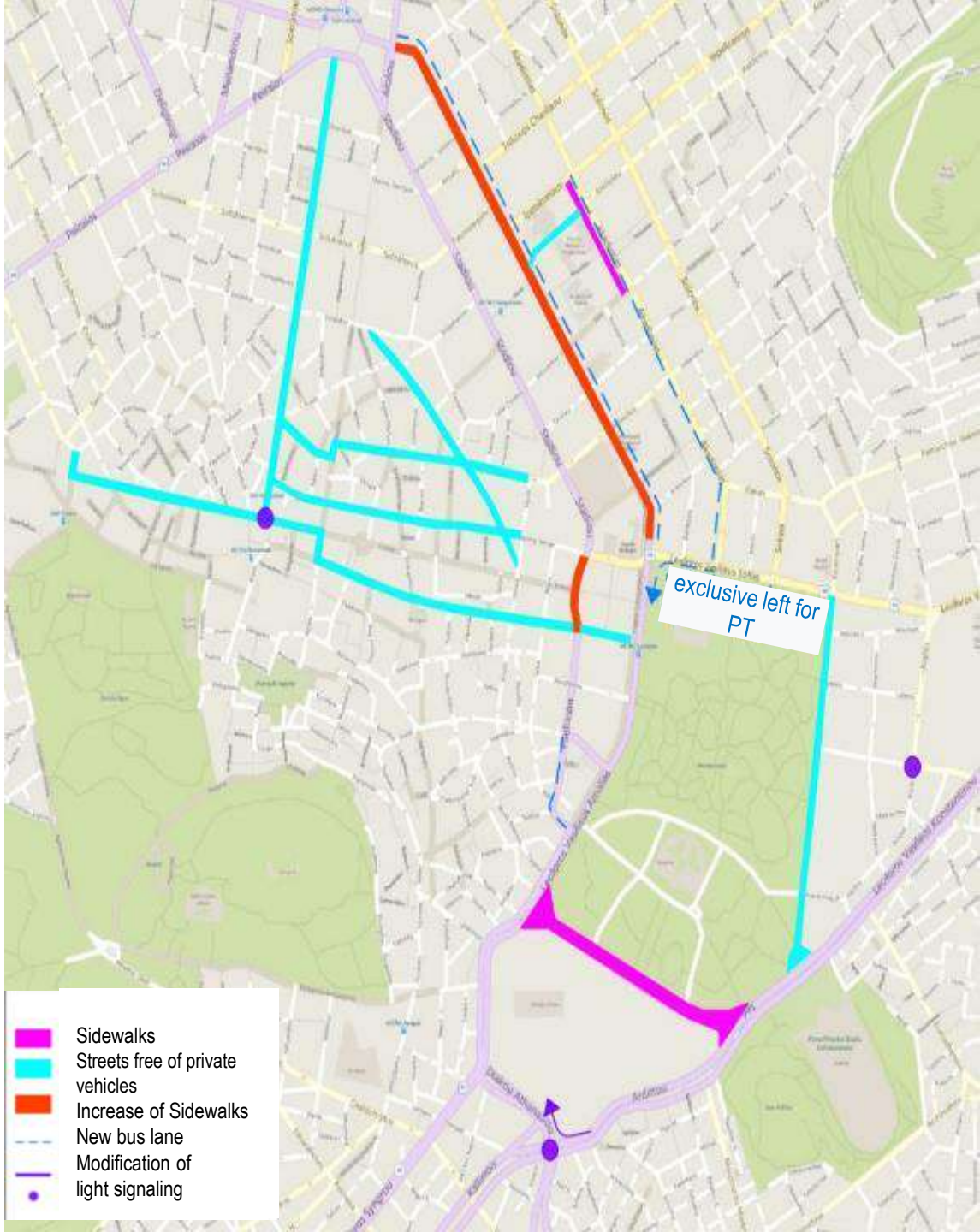
- Olgas Av. - Herodou Attikou
- Athinas - Ermou – Metropoleos

c. Areas free of passenger cars and motorcycles

- Commercial Triangle
- Plaka

d. Promotion of Public Transport and Cycling

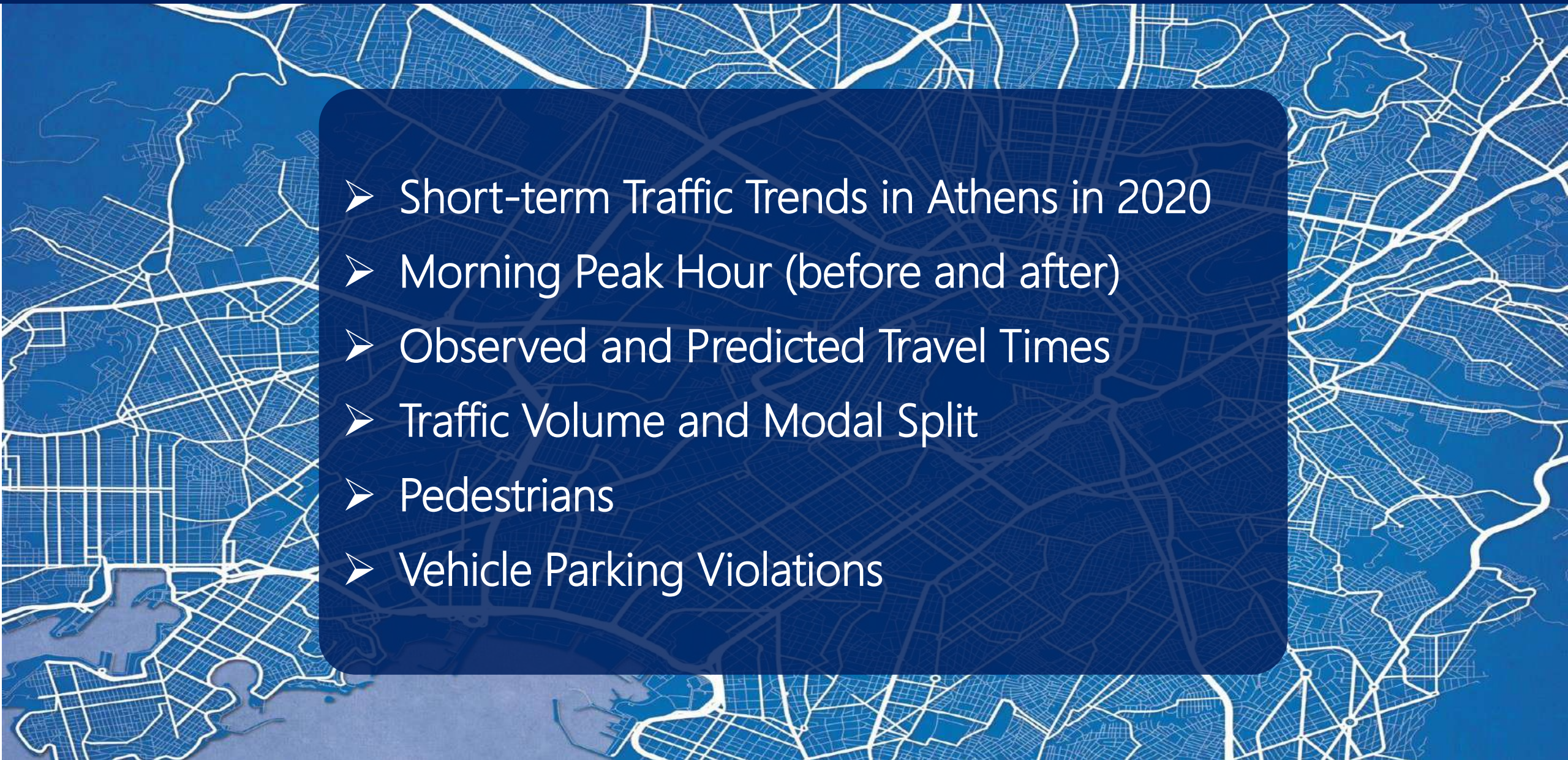
- New bus lanes
- Cycle lanes in main axes
- Mixed traffic with low speeds



Interventions in Operation

- **Olgas Av. - Herodou Attikou:** Streets free of private vehicles from 13/6
- **Panepistimiou:** Increase of sidewalks with 3 traffic lanes from 14/6
- **Syntagma Square** (from Kar. Servias to Mitropoleos): Increase of sidewalks with 4 traffic lanes and one traffic lane for the station of public transportation (from Ermou to Mitropoleos) from 28/6
- **Ermou** (from Monastiraki to Asomaton Sq.): Increase of sidewalks with one traffic lane per direction from 17/7

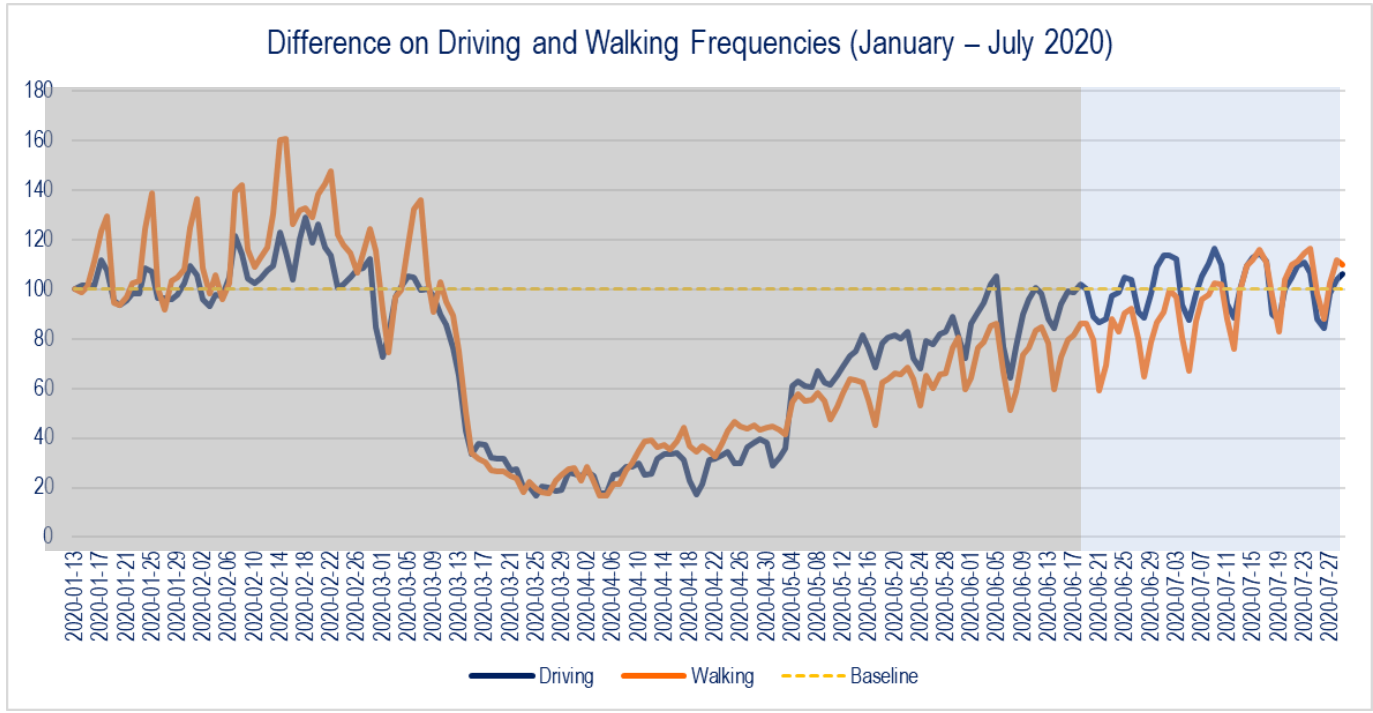
Assessment

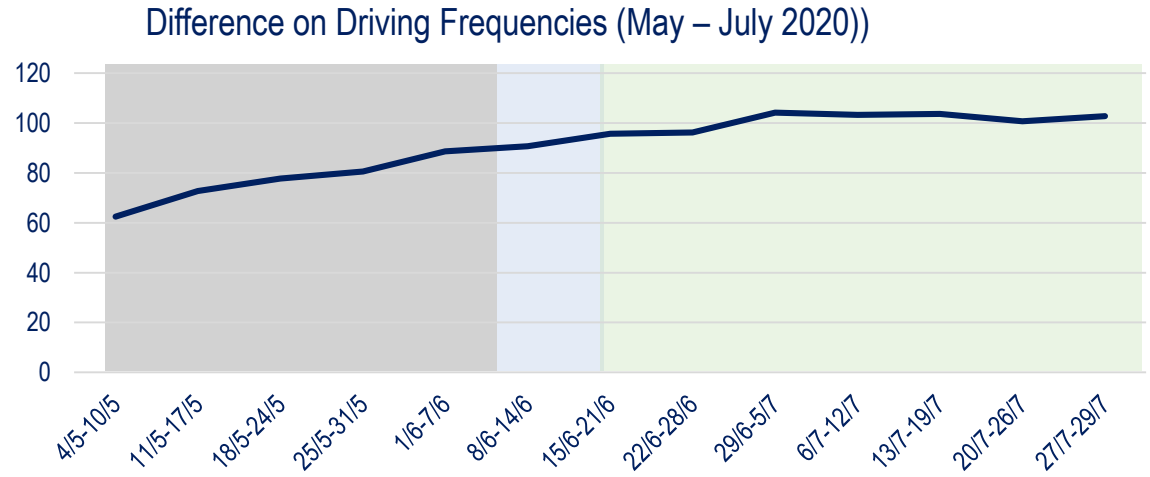


- Short-term Traffic Trends in Athens in 2020
- Morning Peak Hour (before and after)
- Observed and Predicted Travel Times
- Traffic Volume and Modal Split
- Pedestrians
- Vehicle Parking Violations

Short-term traffic trends in Athens on 2020

- The traffic loads at the beginning of June 2020 (before the interventions) comparing to the same period of June 2019, were increased during the morning peak hour:
  - Central Road Axes +10%
  - Entry Road Axes +19%
  - Ring Roads/ Basin +6%
- Traffic loads at the beginning of July 2020 compared to the corresponding period of July 2019, were increased in the Road Axes/ Basin by +15%, an increase that can not be attributed to the Great Walk which has a regional character and influence
- The increase in traffic load in mid-July compared to the beginning of June 2020 is + 24% (despite the reduced travel demand due to summer vacations and the absence of tourists) mainly because of the encouragement to use cars and avoid Public Transportation and the operation of the Ring and controlled parking





Source: Apple

Morning Peak Hour (before and after)

- Traffic congestion in Panepistimiou and limited traffic variation in the other central road axes
- Important traffic congestion in Vas. Amalias (entrance axis) to Syntagma Sq.
- Negligible impact on traffic conditions of the exit road axes
- Traffic congestion in Alexandras (periphery axis)

	Route	Period before	Average Travel Time							
		12/6	1st Week	2nd Week	3rd Week	4th Week	5th Week	6th Week	7th Week	AV 1st-7th Week
Central Road Axes										
1	**Panepistimiou (from Vas. Sofias to Patision)**	**2.7**	**4.0**	**4.0**	**4.1**	**3.8**	**3.8**	**3.7**	**3.6**	**3.9**
2	Akadimias (from Patision to Vas.Sofias)	4.9	4.4	4.7	4.7	4.6	4.2	4.1	4.1	4.4
3	**Solonos (from Vas. Sofias to Patision)**	**7.1**	**7.1**	**7.6**	**8.2**	**7.6**	**6.9**	**6.6**	**6.4**	**7.2**
4	Stadiou (from Aiolou to Vas. Georgiou)	2.7	3.4	2.8	2.8	2.6	2.3	2.3	2.1	2.6
Entry Road Axes										
5	**Vas. Sofias (from Vas. Konstantinou to Panepistimiou)**	**4.6**	**4.3**	**4.3**	**5.1**	**4.4**	**4.2**	**4.2**	**4.1**	**4.4**
6	Vas. Sofias (from Kifisias to Vas. Konstantinou)	4.3	4.3	4.4	4.4	4.2	4.2	3.8	3.7	4.1
7	**Vas. Amalias (from Ath. Diakou to Panepistimiou)**	**3.6**	**5.6**	**6.0**	**6.0**	**5.9**	**5.3**	**4.2**	**3.7**	**5.2**
8	Patision (from Alexandras to Stadiou)	3.0	3.7	3.1	3.5	3.2	3.0	2.9	2.8	3.2
Exit Road Axes										
9	**Vas. Sofias (from Panepistimiou to Vas. Konstantinou)**	**5.2**	**4.6**	**4.5**	**4.9**	**4.6**	**4.1**	**4.1**	**3.6**	**4.4**
10	Vas. Sofias (from Vas. Konstantinou to Kifisias)	5.7	5.5	5.4	5.8	5.6	4.9	4.5	4.5	5.2
11	Vas Amalias (from Filellinon to Ath. Diakou)	1.3	2.2	1.2	1.3	1.3	1.3	1.2	1.2	1.4
12	Filellinon (from Vas. Georgiou to Vas. Amalias)	1.3	2.4	1.2	1.4	1.3	1.2	1.2	1.1	1.4
Ring Roads										
13	**Vas. Konstantinou (from Ardittou/ Ath. Diakou to Vas. Sofias)**	**6.7**	**6.9**	**7.6**	**8.6**	**8.0**	**6.2**	**5.8**	**5.6**	**7.0**
14	Vas. Konstantinou (from Vas. Sofias to Ardittou/ Ath. Diakou)	5.6	5.2	5.1	5.4	4.8	4.3	4.5	4.3	4.8
15	**Alexandras (from Kifisias to Patision)**	**7.8**	**8.3**	**10.0**	**10.0**	**9.2**	**9.0**	**8.5**	**8.0**	**9.0**
16	Alexandras (from Patision to Kifisias)	9.2	8.9	10.3	10.5	10.9	9.7	9.5	9.1	9.8

Source: GoogleMapsAPI

Comparison of observed and predicted travel times

- The observed travel times confirm the predictions of the traffic simulation model of NTUA, as presented in the relevant table (with an exception by Vas. Amalias)

Travel Time (Minutes)

Route		Observations		Dif.	Prediction		Dif.	Διαφορά
		Period Before	AV 1st-7th	AV 1st-7th Week	Existing	Scenario	Existing A	Dif. Observations
		12/6		Period Before	A	B1	Scenario B1	Dif. Prediction
Central Road Axes								
1	**Panepistimiou (from Vas. Sofias to Patision)**	**2.7**	**3.9**	**1.2**	**2.9**	**5.1**	**2.2**	**-1.1**
2	Akadimias (from Patision to Vas.Sofias)	4.9	4.4	-0.5	4.9	4.9	0.0	-0.5
3	**Solonos (from Vas. Sofias to Patision)**	**7.1**	**7.2**	**0.1**	**4.4**	**5.1**	**0.7**	**-0.6**
4	Stadiou (from Aiolou to Vas. Georgiou)	2.7	2.6	-0.1	3.3	3.7	0.4	-0.5
Entry Road Axes								
5	**Vas. Sofias (from Vas. Konstantinou to Panepistimiou)**	**4.6**	**4.4**	**-0.2**	**3.4**	**3.1**	**-0.4**	**0.2**
6	Vas. Sofias (from Kifisias to Vas. Konstantinou)	4.3	4.1	-0.1	5.5	5.0	-0.5	0.4
7	**Vas. Amalias (from Ath. Diakou to Panepistimiou)**	**3.6**	**5.2**	**1.6**	**1.9**	**2.0**	**0.1**	**1.5**
8	Patision (from Alexandras to Stadiou)	3.0	3.2	0.1	2.7	2.6	-0.1	0.2
Exit Road Axes								
9	**Vas. Sofias (from Panepistimiou to Vas. Konstantinou)**	**5.2**	**4.4**	**-0.8**	**4.4**	**4.9**	**0.5**	**-1.3**
10	Vas. Sofias (from Vas. Konstantinou to Kifisias)	5.7	5.2	-0.5	4.4	4.3	-0.1	-0.4
11	Vas Amalias (from Filellinon to Ath. Diakou)	1.3	1.4	0.1	1.6	2.2	0.6	-0.5
12	Filellinon (from Vas. Georgiou to Vas. Amalias)	1.3	1.4	0.1	1.8	3.2	1.5	-1.4
Ring Roads								
13	**Vas. Konstantinou (from Arditou/ Ath. Diakou to Vas. Sofias)**	**6.7**	**7.0**	**0.2**	**2.0**	**1.9**	**-0.1**	**0.3**
14	Vas. Konstantinou (from Vas. Sofias to Arditou/ Ath. Diakou)	5.6	4.8	-0.8	3.8	3.9	0.0	-0.9
15	**Alexandras (from Kifisias to Patision)**	**7.8**	**9.0**	**1.2**	**9.0**	**9.6**	**0.5**	**0.6**
16	Alexandras (from Patision to Kifisias)	9.2	9.8	0.7	7.1	7.2	0.1	0.6

Source: GoogleMapsAPI

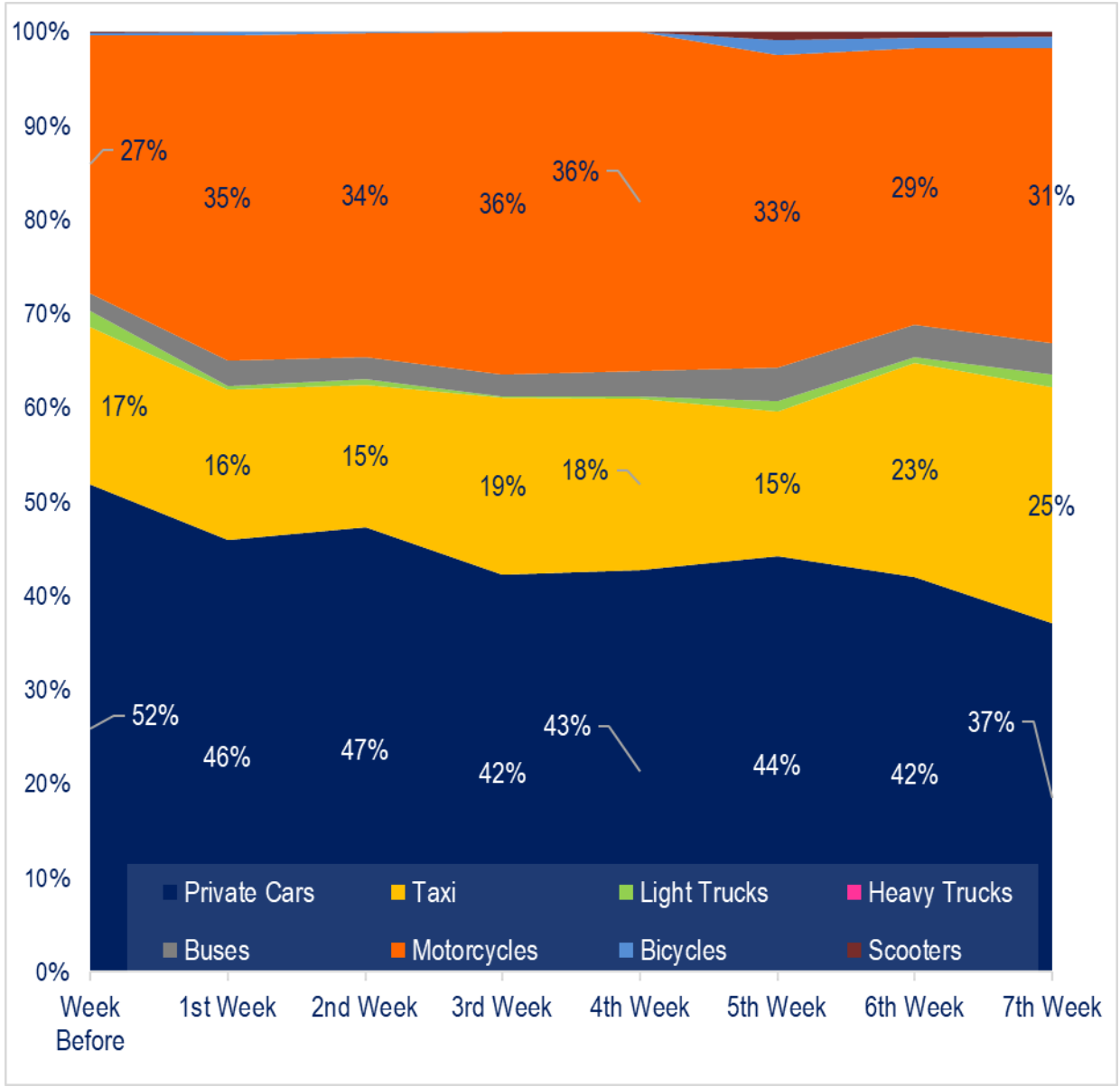
Traffic in Panepistimiou

Traffic Volume

- Decrease in the hourly traffic load during the morning peak (-35% from 4,200 to 2,745) and the afternoon peak (-28.7%)

Modal Split

- The composition of the circulation changed significantly:
  - 8.7% reduction in the percentage of private cars
  - 6.2% increase in the percentage of motorcycles
  - 1.1% increase for buses / trolleys
  - 1.9% increase in taxis
  - for bicycles and e-scooters no statistically significant difference was observed



Source: NTUA

Traffic in Nearby area of influence of interventions

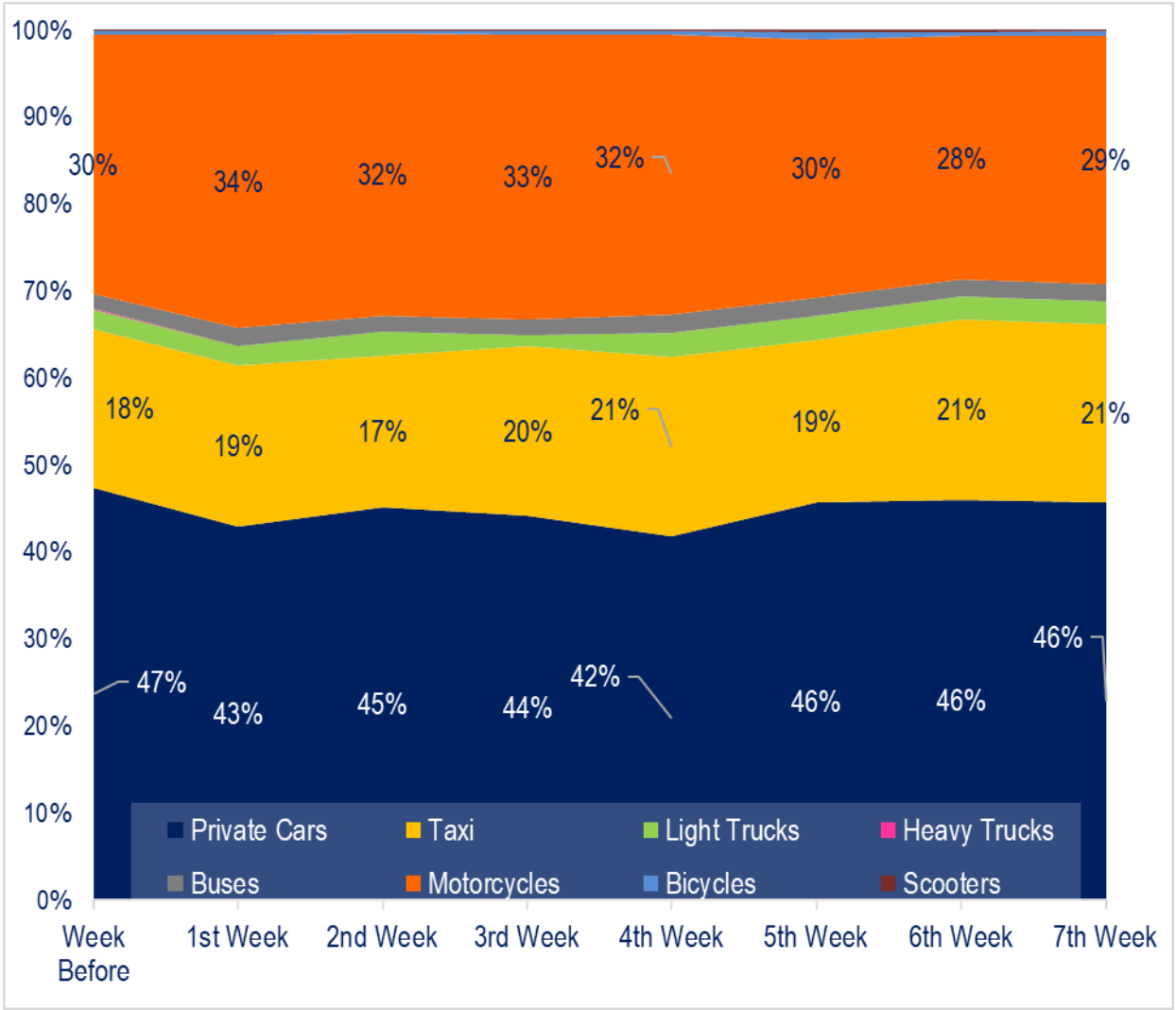
(Panepistimiou, Stadiou, Solonos, Filellinon, Vas. Sofias 1, Vas. Sofias 2, Vas. Amalias, Akadimias)

Traffic Loads

- Decrease in the hourly traffic load during the morning peak (-16.5%) and the afternoon peak (-19.9%)

Modal Split

- The composition of the circulation changed significantly:
  - 2.9% reduction in the percentage of private passenger cars
  - 1.2% increase in the percentage of motorcycles
  - 1.2% increase in taxis
  - for buses / trolleys, bicycles and skates no statistically significant difference was observed



Source: NTUA

Traffic in Ring Roads

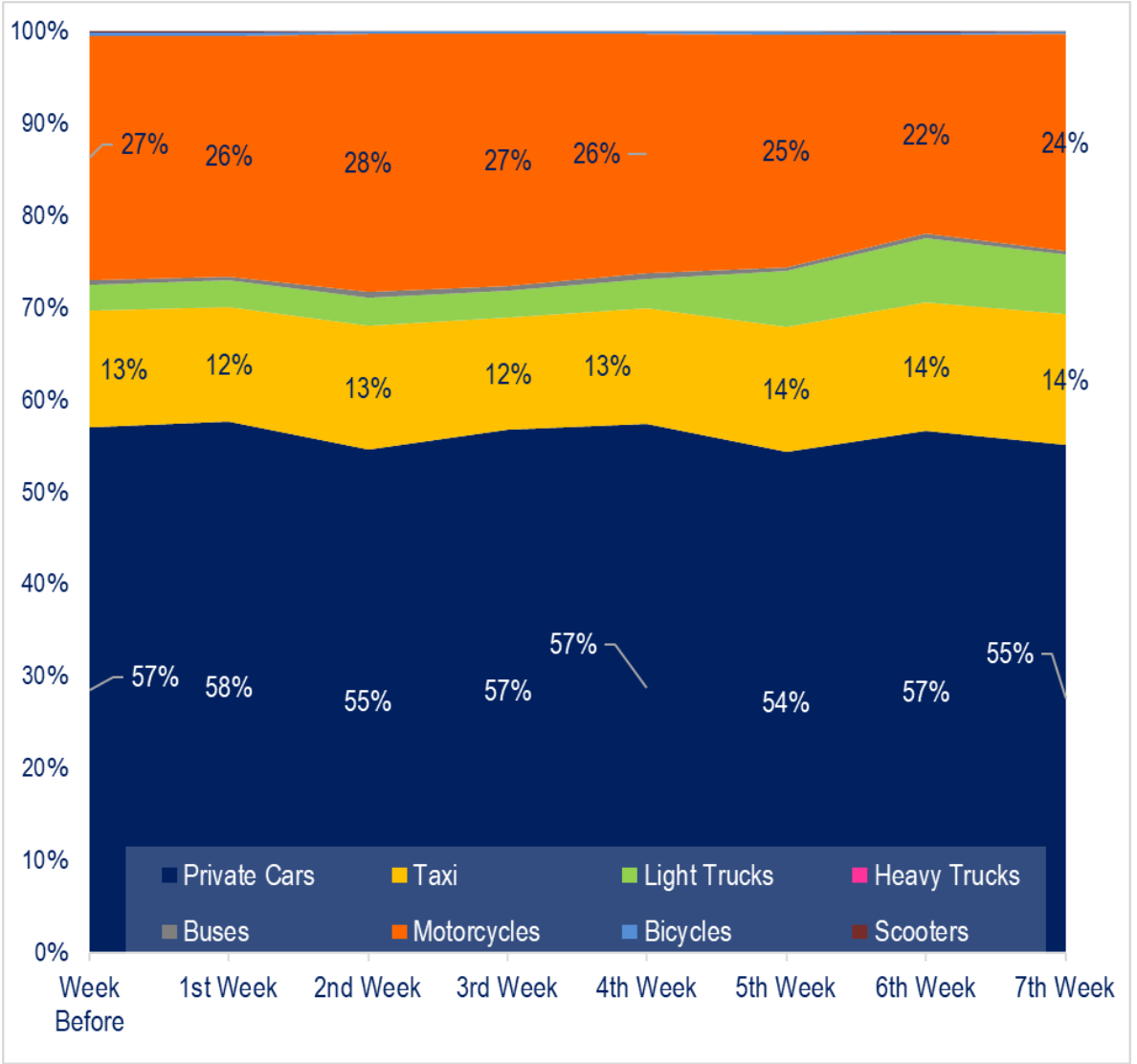
(Alexandras1, Alexandras2, Vas.Konstantinou1, Vas.Konstantinou2)

Traffic Loads

- Significant increase in the hourly traffic load (crossings) during the morning peak (+ 15.9%) and during the noon peak (+ 20.9%)

Modal Split

- The composition of the circulation did not changed significantly:
  - 1% reduction in the percentage of private passenger cars and motorcycles
  - 0.6% increase in taxis
  - for buses / trolleys, bicycles and skates no statistically significant difference was observed



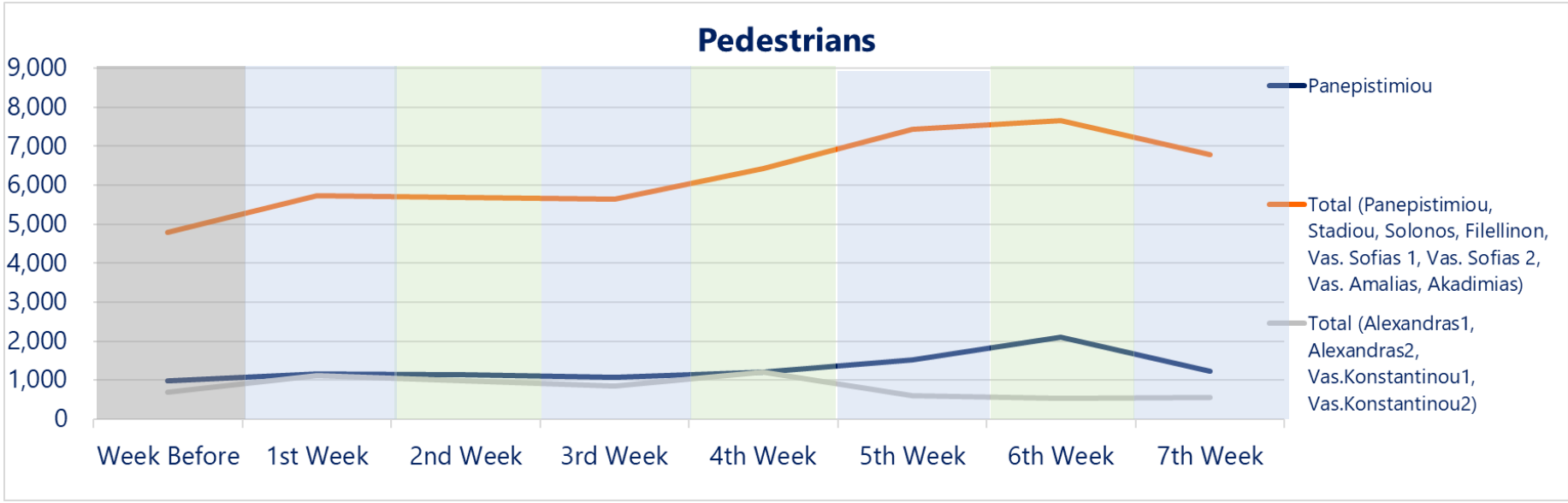
Source: NTUA

Pedestrians

Significant increase in walking:

- Panepistimiou (18%)
- Road axes of the nearby area of influence (25%)
- Periphery roads(19%)

Walking	Week Before	1st Week	2nd Week	3rd Week	4th Week	5th Week	6th Week	7th Week	1st to 7th week	Dif. Week Before - 7th Week	Dif. Week Before - Av(1st-7th week)
Panepistimiou	992	1,160	1,132	1,068	1,200	1,528	2,112	1,236	1,171	24.6%	18.1%
Total (Panepistimiou, Stadiou, Solonos, Filellinon, Vas. Sofias 1, Vas. Sofias 2, Vas. Amalias, Akadimias)	4,784	5,736	5,680	5,636	6,434	7,424	7,664	6,792	5,979	42.0%	25.0%
Total (Alexandras1, Alexandras2, Vas.Konstantinou1, Vas.Konstantinou2)	700	1,112	984	848	1,196	604	524	568	834	-18.9%	19.1%

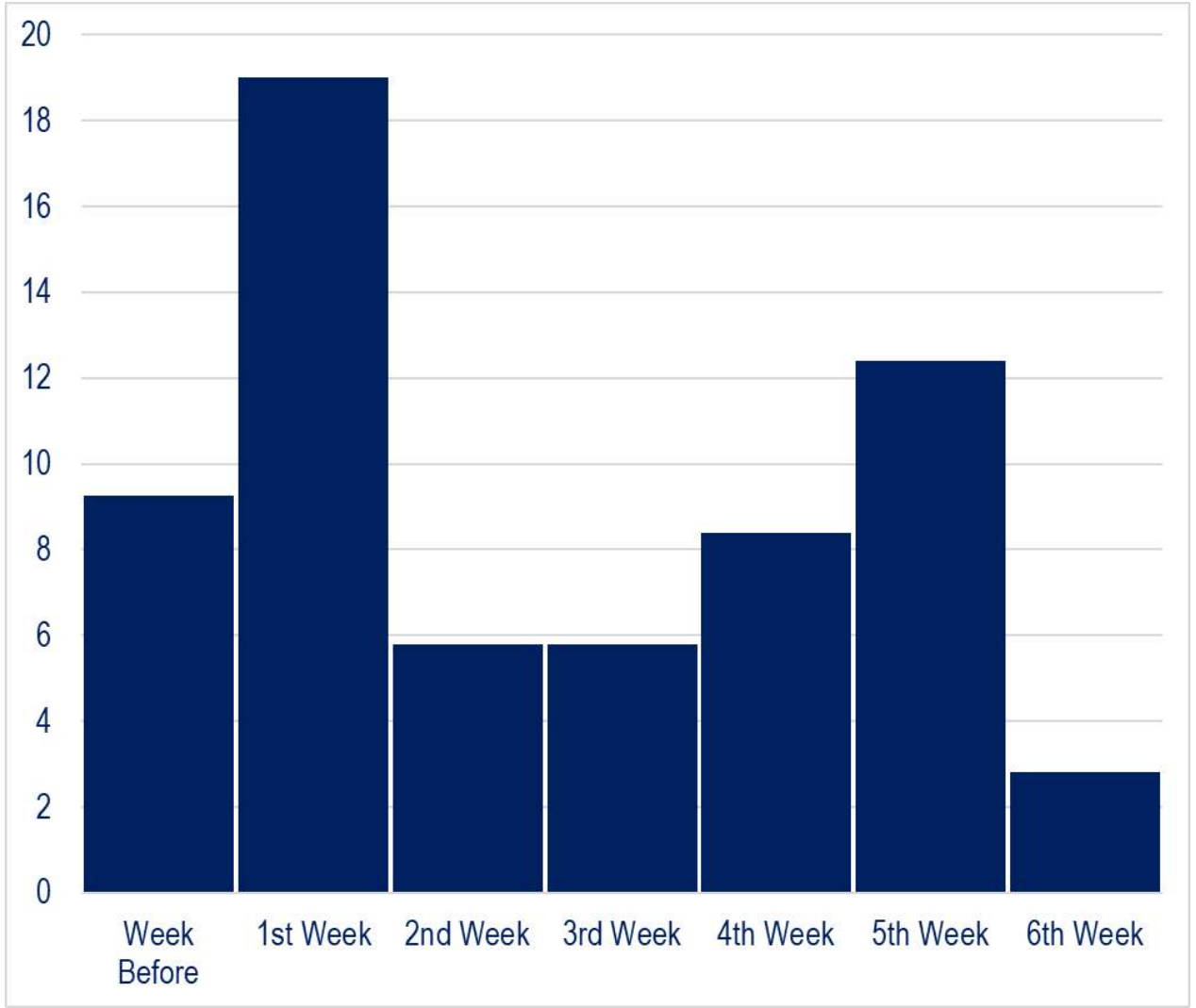


Source: NTUA

Vehicle Parking Violations

Roads: Solonos and Sekeri

- In the first week of implementation of the new traffic regulations, illegal parking enforcement was increased and parking violations recorded were doubled, revealing the existing delinquency
- In the following weeks there was a significant reduction (-63%) in parking violations recorded, possibly because drivers perceived the enforcement increase and consequently the delinquency decreased
- Fluctuations in parking violations are mainly due to corresponding enforcement fluctuations

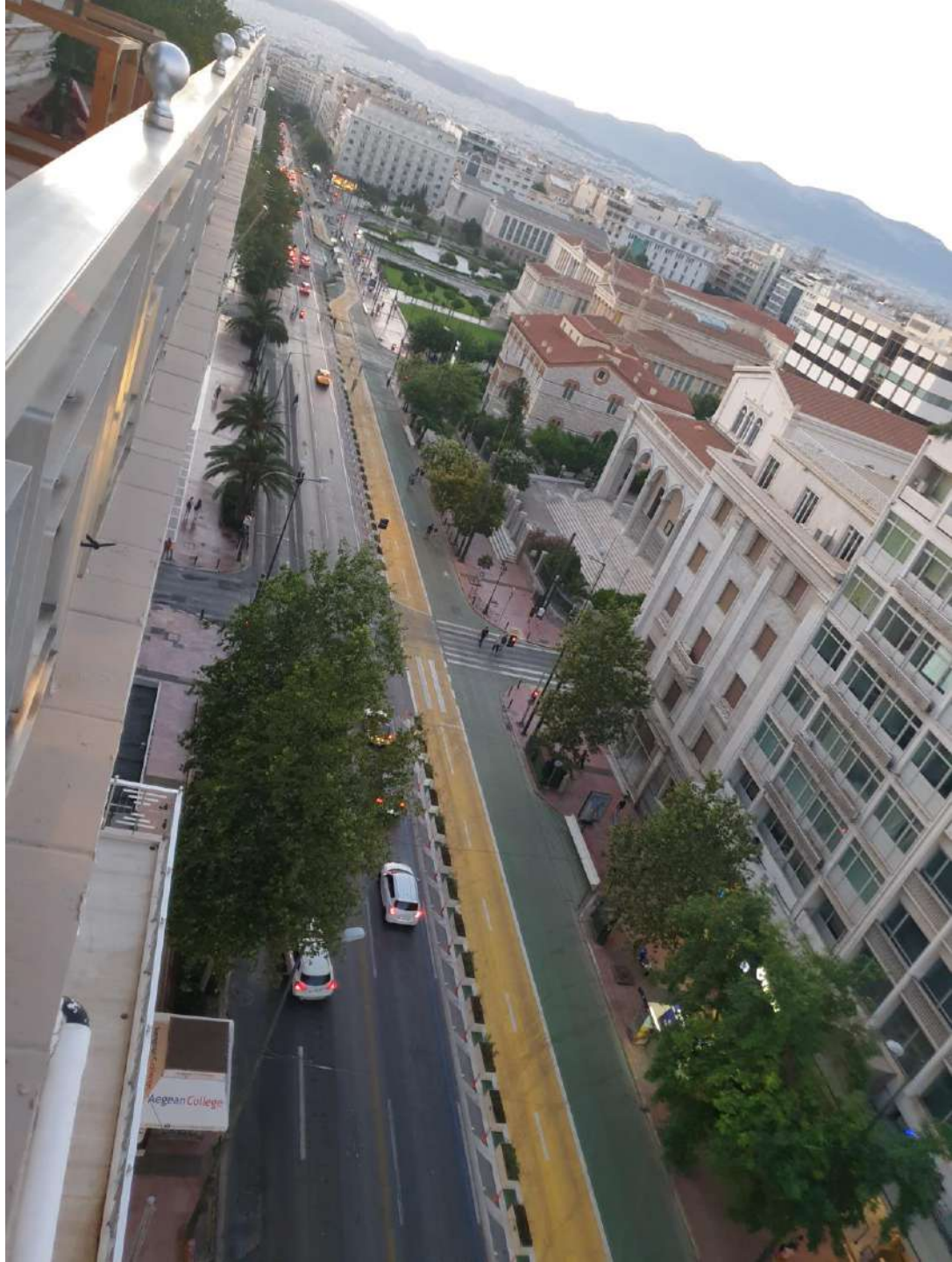


Source: Municipal Police

General Comments

Concluding Remarks

- Pilot implementation of a first set of interventions
- Reactions and Changing of Travel Habits
- Highly useful vivid dialogue on real project and not on design plans
- Interventions adjustments are examined
- Traffic conditions deteriorated (mainly at central and entry axes), pedestrians, cyclists and public transport passengers travel conditions improved



Act TravelWise

Webinar

Athens Great Walk transformation project

George Yannis
NTUA Professor

Monday, 14 September 2020