ATELIER 4

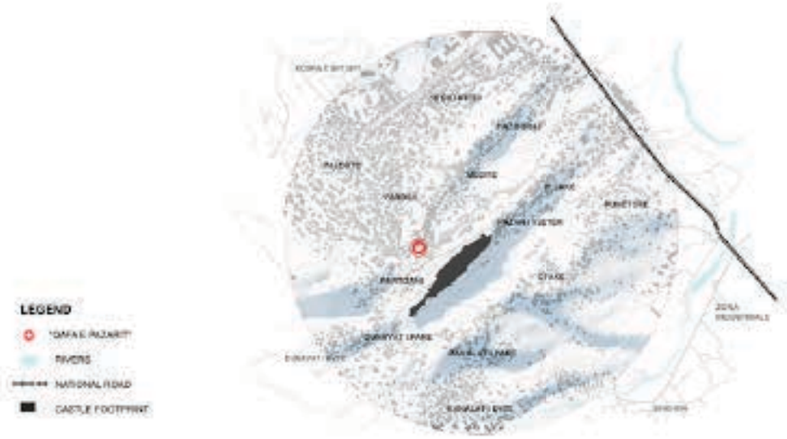
DESIGN OF A BYPASS ROAD
IN UNESCO PROTECTED CITY OF GJIROKASTRA

It was a slanted city, set at a sharper angle than perhaps any other city on earth, and it defied the laws of architecture and city planning. The top of one house might graze the foundation of another, and it was surely the only place in the world where if you slipped and fell in the street, you might well land on the roof of a house – a peculiarity known most intimately to drunks.

"Chronicle in Stone"
ISMAIL KADARE

MAIN ENTRY NODES

MAIN CIRCULATION AXIS



VEGETATION

Gjirokastra was built by major landowners. Around the ancient 13th century citadel, the town has houses with turrets (the Turkish kule) which are characteristic of the Balkans region. Gjirokastra contains several remarkable examples of houses of this type, which date from the 17th century, but also more elaborate examples dating from the early 19th century.

The World Heritage property Museum-City of Gjirokastra was inscribed on the World Heritage List in 2005.

Gjirokastra is a compact city with a Historical Center made by stone building one above each other.
A good part of the alleys are pedestrian because of being conceived on another era.

In the characteristics of these ensembles a crucial role plays the configuration of the terrain on which they arise. The most picturesque ensembles we can find in Gjirokastra are:
"Pazar i Vjeter", quarters of "Pllake" and "Hazmurat"
Road of "Qafa Pazarit" is part of the Museum Zone, of first category, with a width of 5-6m , high sloped and paved with stone. The circulation of vehicles is very difficult, but above all difficulties, it is the main distribution nod.

Gjirokastra has alternative roads to get to the uphill dwelling area but in some section they face serious

Albanian legislation for protected areas:

The Albanian legislation defines the objects of Cultural Heritage as follows:
a) an 'Archaeological Centre' is the area where monuments and archaeological objects on and under the ground are preserved;
b) a 'Historic Centre' is the urban or rural ensemble of historic and cultural values under protection of the state;
c) a 'Museum Town'(or 'Museum City')is the urban Centre protected by the state for its historical and cultural value.

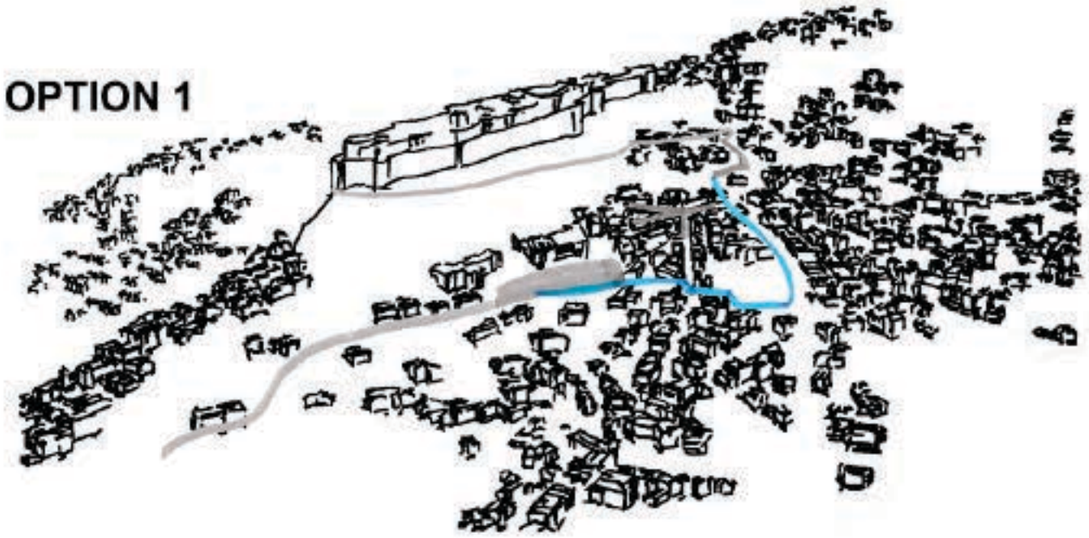
Monuments are categorised according to the following criteria:
d) 1st Category monuments are "constructions of distinguished values and special importance to the cultural heritage. They are preserved in the entirety of their architectonic and technical components".
e) 2nd Category monuments are "all the buildings located within the museum areas and those located within the protected areas of the Museum Cities in the Historic Centres not defined as monuments of 1st category". Although according to Albanian law, "2nd category monuments are those constructions which represent salient values, mainly externally", in Gjirokastra and Berat, 2nd category monuments are all the constructions in the historic centres which are not defined as 1st category monuments.

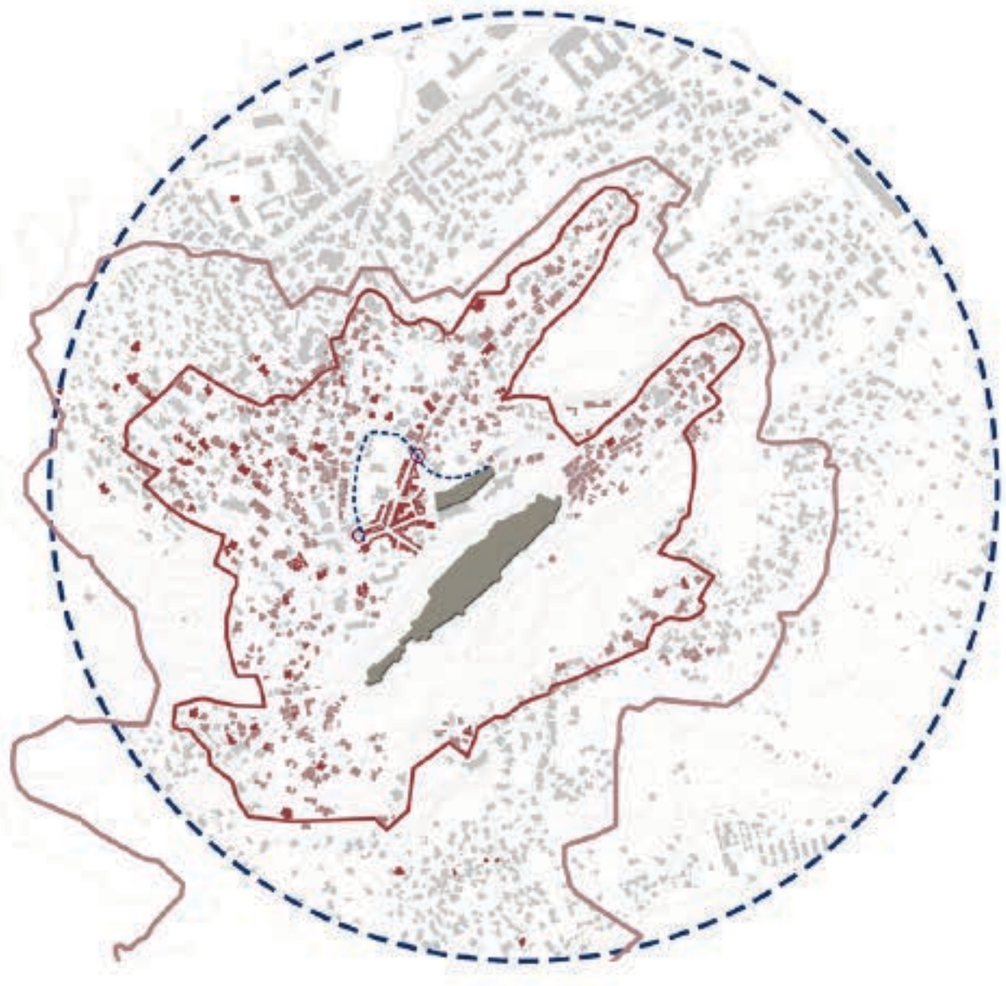
In the Historical Center it is not allowed to make new constructions by exception to the improvement of road and engineering infrastructure and the reconstructions allowed by authorities of IMK. referred to the Official Journal nr 122 year 2015. Decision nr 619 dt 07.07.2015
In the Protected Zone it is allowed to make new constructions or the reconstruction of the existing buildings made on free sites predefined as such on cadastral map.
The heart of the city is Qafa e Pazarit from the architectonic-monumental point of view, because not only it is the most beautiful but also because in there it is the city's most vital activity concentration like craft market, café, restaurants and other services.
UNESCO and Albanian authorities have agreed that Qafa e Pazarit must be pedestrian, must be to be restored and promote the population and the practice of craft-commercial activities being closer to the economical activity tradition.
Thus will raise much more tourist interest, in this way it will be given easier access on creating the conditions to visit and discover the activities around.

There is also a need to motivate residents to return to their houses - in Gjirokastra - for the revival of the historic centre as the continuity of life in the historic cities is one of the most important attributes of OUV. (*ref. UNESCO, Mission Report. Eleni Maistrou. 2012

UNESCO PROTECTED ZONES

OPTION 1





The challenge in this Monumental city with stone buildings in a very compact placement, is to find the possibility to realize a Bypass toward the Centre by fulfilling these conditions:

- Not ruin buildings because it is a Protected Zone and most of them are monuments of the 1st category and others of 2nd category.
- The road must fit in the urban morphology of the city
- Must respect the existing Landscape
- Must be integrated in the best way to the existing scheme in a natural and fluid circulation
- Must save the continuing connection between the different quarters of the city and not create artificial conditions that large areas remain on difficult communication with the city Centre.
- The Centre and each zone must have the opportunity to be visited normally by the residents also carrying their goods, tourists and the elder people, under optimal conditions.

Bypass schemes considered:
Scheme 1, is an old known "solution" thought, mentioned, discussed and overthrown by the Gjirokastra's citizen and the of IMK plan that shows that 2 buildings of the 1st grade of protection has to be destroyed. This was not the only problem of this scheme but also the involvement of very visible and yet aggressive bridge structures to sidetrack the cars from the Cerciz Topulli plaza toward the Cultural House. It is almost a short way to avoid the Qafa e Pazarit but carrying a lot of impossibilities and certainly not an option to consider.

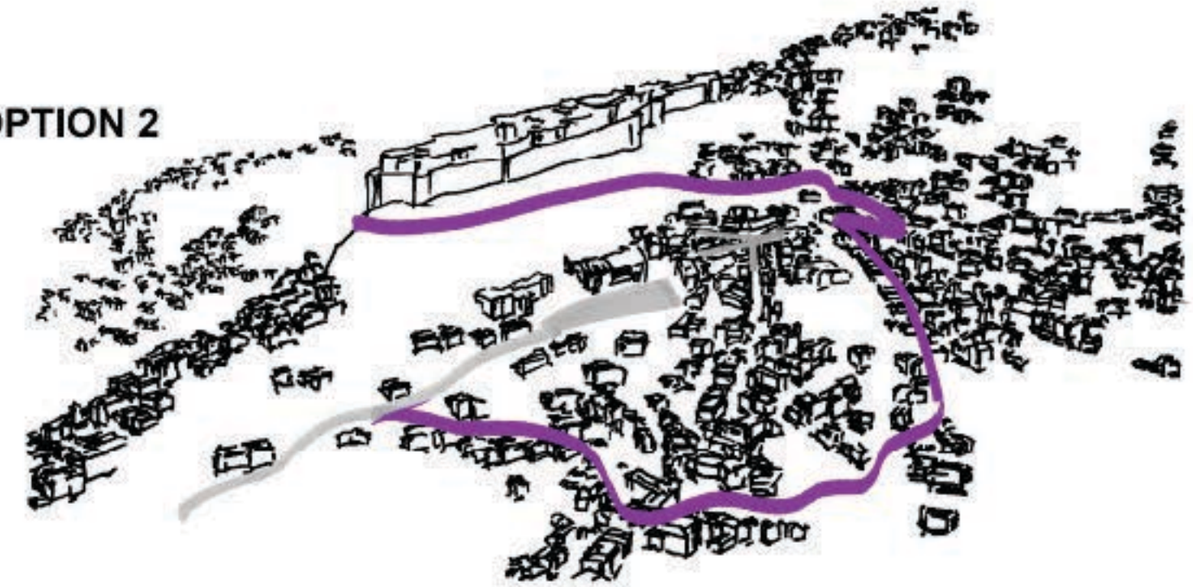
ADVANTAGES

- SHORT LENGTH: 450 M
- STABLE GROUND
- ADEQUATE ROAD WIDTH + SIDEWALK ENSURED
- FAST AND COMFORTABLE TRAFFIC DEVIATION

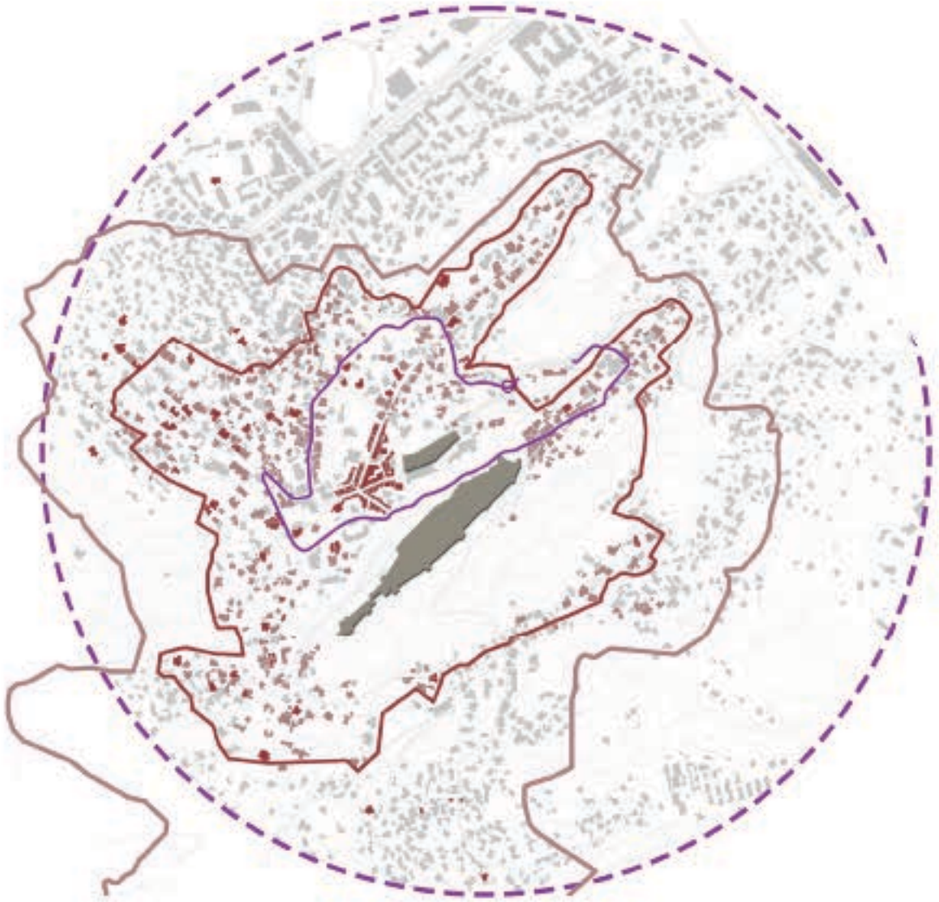
DISADVANTAGES

- CONSTRUCTION OF DEMANDING AND COSTLY ENGINEERING WORKS (RETAINING WALLS, ESTACADES) REQUIRED
- CONSIDERABLE SLOPE
- HIGH VISUAL IMPACT IN A HISTORIC ENVIRONMENT
- HIGHT COSTS (CALCULATED VALUE ABOUT 405 MILLION LEKE) AND HIGH CONSTRUCTION TIME
- REQUIRES THE DEMOLITION OF TWO OBJECTS IN THE ENSEMBLE OF MOUMENTS
- DAMAGING OF THE PROTECTED GREEN AREA

OPTION 2



Scheme 2, was an option that we had to consider just for the sake of being economically reasonable trying to use the outmost of the city's streets.
But sooner starting walking to this street you recognize a lot of 2m narrow points between buildings of the 1st and 2nd grade of protection. It was not worthy continuing anymore with the rumors of devastation following this scheme.



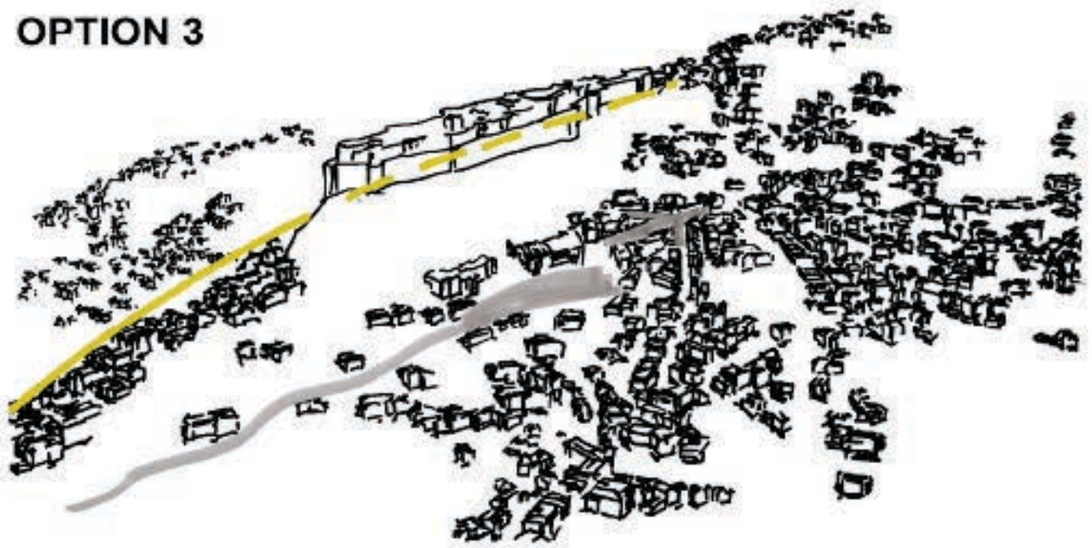
ADVANTAGES

- EXISTING ROAD REHABILITATION: 2.5 KM
- LOWER COSTS COMPARED TO OTHER OPTIONS (ABOUT 58 MILLION LEKE)
- REVITALISATION OF COMMERCIAL ACTIVITIES IN EXISTING NEIGHBOUR-HOODS (MECITE, HAZMURAT AND VAROSH)

DISADVANTAGES

- INADEQUATE ROAD STANDARTS (NARROW SEGMENTS, UP TO 2 M)
- LONG ROUTE
- REQUIRES THE DEMOLITION OF A LARGE NUMBER OF HOUSES (HOLDING THE CULTURAL MONUMENT STATUS), AMOUNTING TO AN EXPROPRIATION VALUE OF 50 MILLION LEKE

OPTION 3



Scheme 3, was an common sense at first glance, trying to make an almost straight road from the back of the castle above the bank of the torrent. But there were 3 substantial problems.
1) It is on the limits of impossible to consider the idea of constructing a road above sliding soil layers and not only that but also
2) This option divides 3 quarters that are settled behind the torrent with the living part of the city Qafa e Pazarit and its centre and the other quarters and the rest of the city.
3) From the main definition of "landscape" and from the Malta's convention for the landscape it is inappropriate to consider a road above that torrent.
4) it is of an unimaginable cost the solution to make an bridge system road from the both sides of the torrent for the whole longitude.

ADVANTAGES

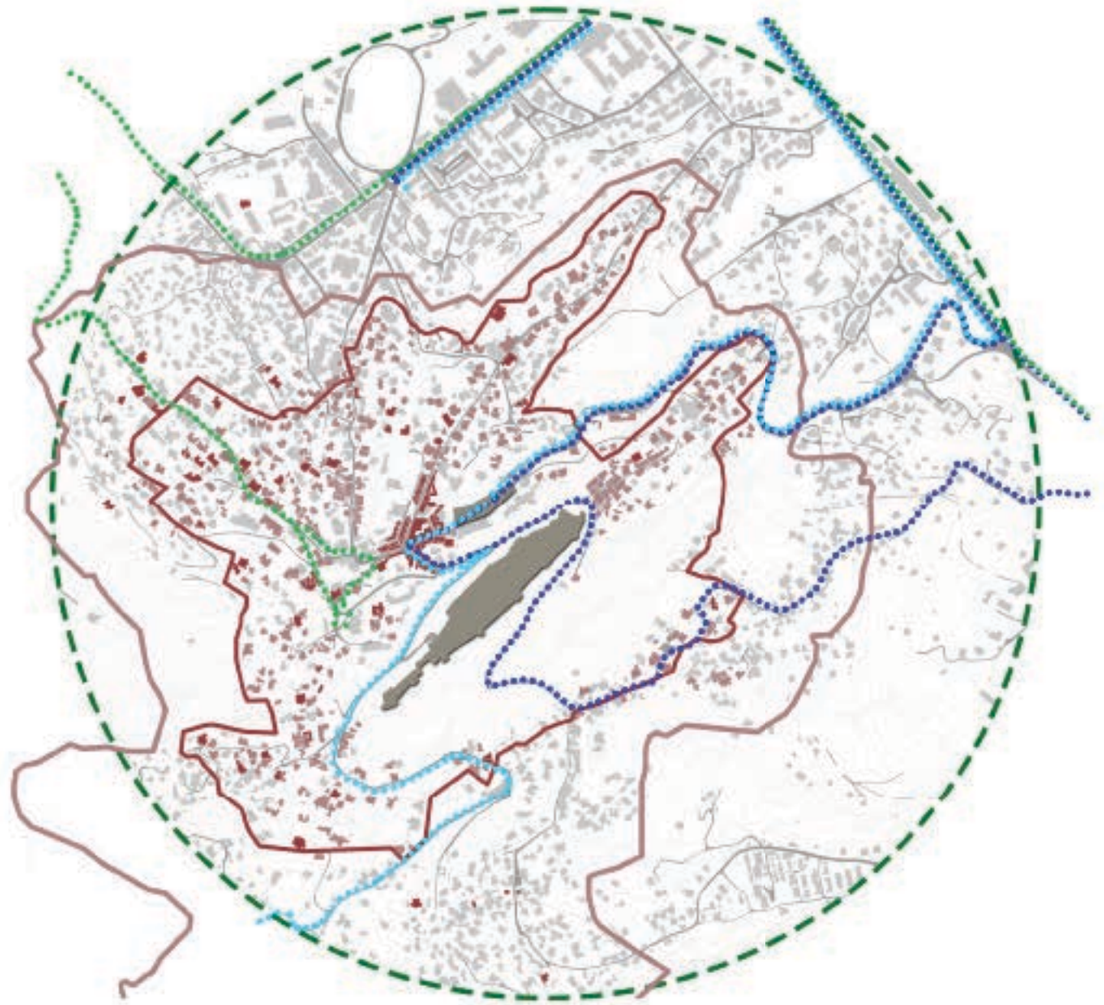
- LENGTH: 1000 M
- NEW PROPOSED AXIS DIRECTLY CONNECTED WITH THE NATIONAL ROAD
- NONE OF THE CULTURAL MONUMENTS IS DEMOLISHED

DISADVANTAGES

- MAJOR BUILDING WORKS REQUIRED (A BRIDGE OR A COMBINED STRUCTURE ABOVE THE RIVER OF ABOUT 700 M WITH HIGH RETAINING WALLS), WITCH ARE MORE DEMANDING AND MORE COSTLY THAN OTHER OPTIONS. CALCULATED VALUE OF ABOUT 535 MILLION LEKE
- EXTENDED AXIS THAT REQUIRES GREATER INVESTMENTS IN MONEY AND TIME
- SLOPED TERRAIN WITH A SIGNIFICANT LEVEL DIFFERENCE IN RELATION TO THE HISTORIC CENTRE
- UNSTABLE SLOPE FORMATIONS ON BOTH SIDES OF THE RIVER
- THE RIVER SERVES AS ONE OF THE MAIN CHANNELS OF NATURAL DRAINAGE FOR THE UPPER NEIGHBOURHOODS OF THE SOUTH SLOPES OF GJIROKASTRA CASTLE
- PASSING OVER A CREEK WITH RELATIVELY LOW FLOWS BUT VERY AGGRESSIVE DURING RAINFALL PERIODS
- REQUIRES A RETAINING STRUCTURE THROUGHOUT ALL ITS LENGTH
- DISTANCE FROM THE HISTORIC CENTRE DOESN'T SOLVE THE CONNECTION OF THE UPPER NEIGHBORHOODS WITH THE BAZAAR AREA
- DAMAGES THE ECOSYSTEMS OF THE FLORA AND FAUNA IN AN AREA ALMOST UNTOUCHED BY URBAN DEVELOPMENT

OPTION 4

Scheme 4, is an circulation option that we were obliged to think over it and analyze in order to consider every possible option. As strong point this option has the timetable for private cars, public circulation and deferring the way cars go from Qafa e Pazarit to other streets nearby. The public busses cross the Qafa e Pazarit every 4 minutes and by blocking this part of the street they have to be pushed too far away and increasing the consumption, waiting time and also making new difficult points to pass.



ADVANTAGES

- NO DIRECT COSTS IN BUILDING THE BYPASS
- IT AVOIDS LARGE INTERVENTIONS IN THE HISTORIC CENTRE AND THE PROTECTED ZONE, WHICH MOREOVER REQUIRE COMPLEX ENGINEERING INTERVENTION

DISADVANTAGES

- NOT A DEFINITE SOLUTION FOR TURNING THE BAZAAR AREA IN A PEDESTRIANIZED ZONE
- EXTENDS AND HINDERS TRAFFIC IN OTHER PARTS
- REQUIRES IMPROVEMENTS IN EXISTING ROADS (WIDENING, IMPROVEMENT OF RAYS, HIGH RETAINING WALLS), RESULTING IN THE DEMOLITION OF SEVERAL OBJECTS (ALMOST ALL NOT CULTURAL MONUMENTS), AS WELL AS OTHER ROAD WORKS.
- 2 BUS LINES WILL CONTINUE TO PASS THE BAZAAR AREA WITHOUT TIME RESTRICTION

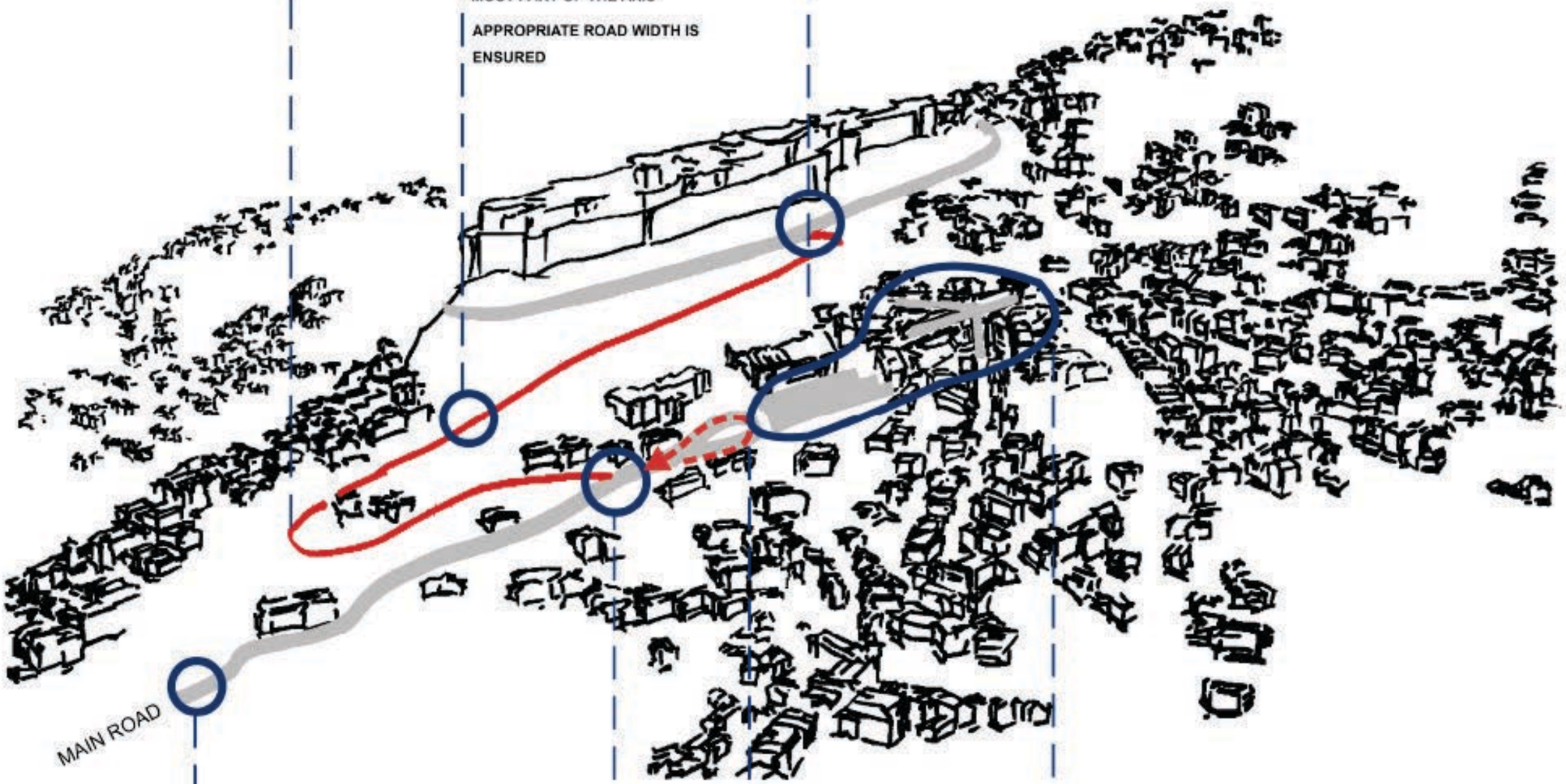
NO CULTURAL MONUMENTS ARE DEMOLISHED

AFFORDABLE SLOPE ON THE MOST PART OF THE AXIS

APPROPRIATE ROAD WIDTH IS ENSURED

ENDING POINT OF THE PROPOSED BYPASS

INTEGRATION WITH THE EXISTING ROAD SYSTEM



OPPORTUNITY FOR A PARKING AREA, BUS STATION AND INFO POINT

PART OF THE NEW AXIS USES THE EXISTING ROAD

STARTING POINT OF THE PROPOSED BYPASS

INTEGRATION WITH THE EXISTING ROAD SYSTEM

TURNING POINT FOR ALL VEHICULAR TRAFFIC (EXEPTIONS FOR AMBULANCES, FIREFIGHTERS, STORE SUPPLIERS AND COURT CIRCULATION)

TRANSFORMATION OF THE BAZAAR I NTO A PEDESTRIANIZED AREA

INTERVENTION MAP

The NEW BYPASS in the Protected area.
This is by far the best possible solution for the needed ByPass.

It starts just before the Kalivopuli house and enters inclined at 13 % under the castle, continuing above the Municipality and the Cajupi Hotel. It is a 2 lane and 2 ways road. It connects to the existing road that brings to the castle and it divides in both directions aside the castle.
The NEW BYPASS solution is the most efficient from all the above mentioned proposals.
The NEW BYPASS priorities :

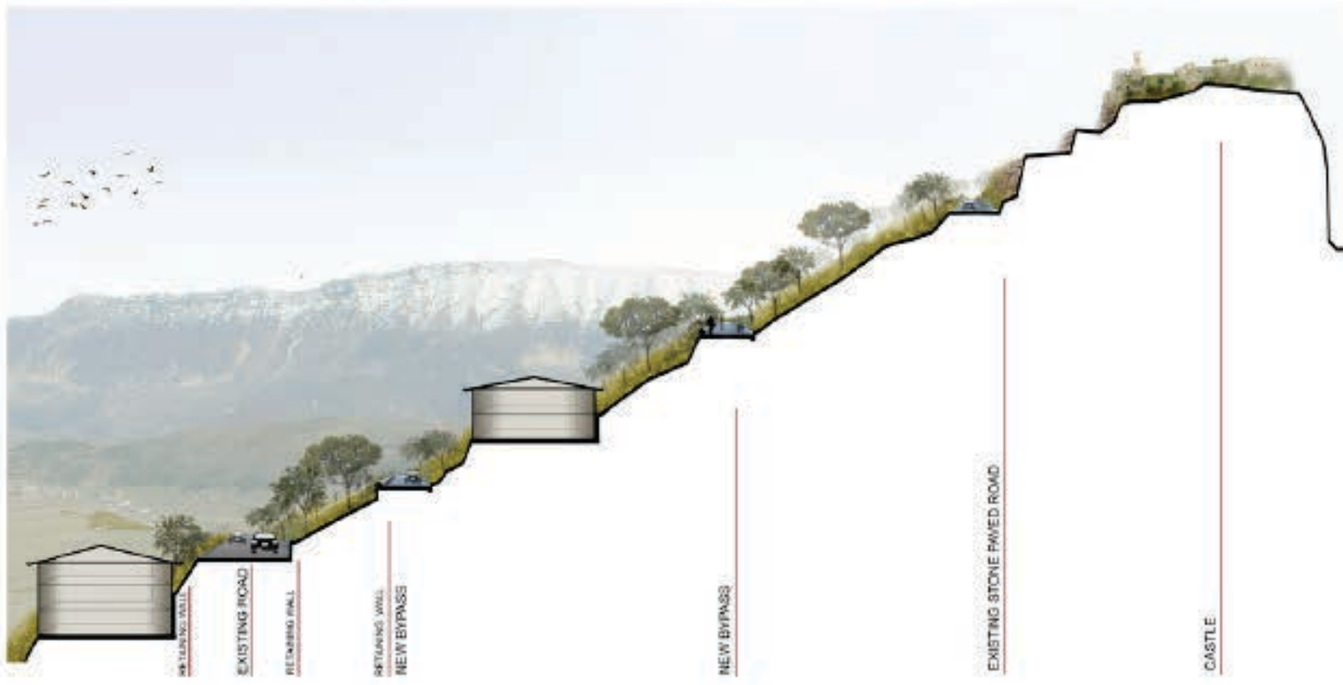
- It is close to the Qafa e Pazarit

- It is short (568m)

- It sidetracks the circulation as needed, from Qafa e Pazarit to just few meters more on top of the castles slope by making easier to the passengers to arrive to their inside Bazaar residents.

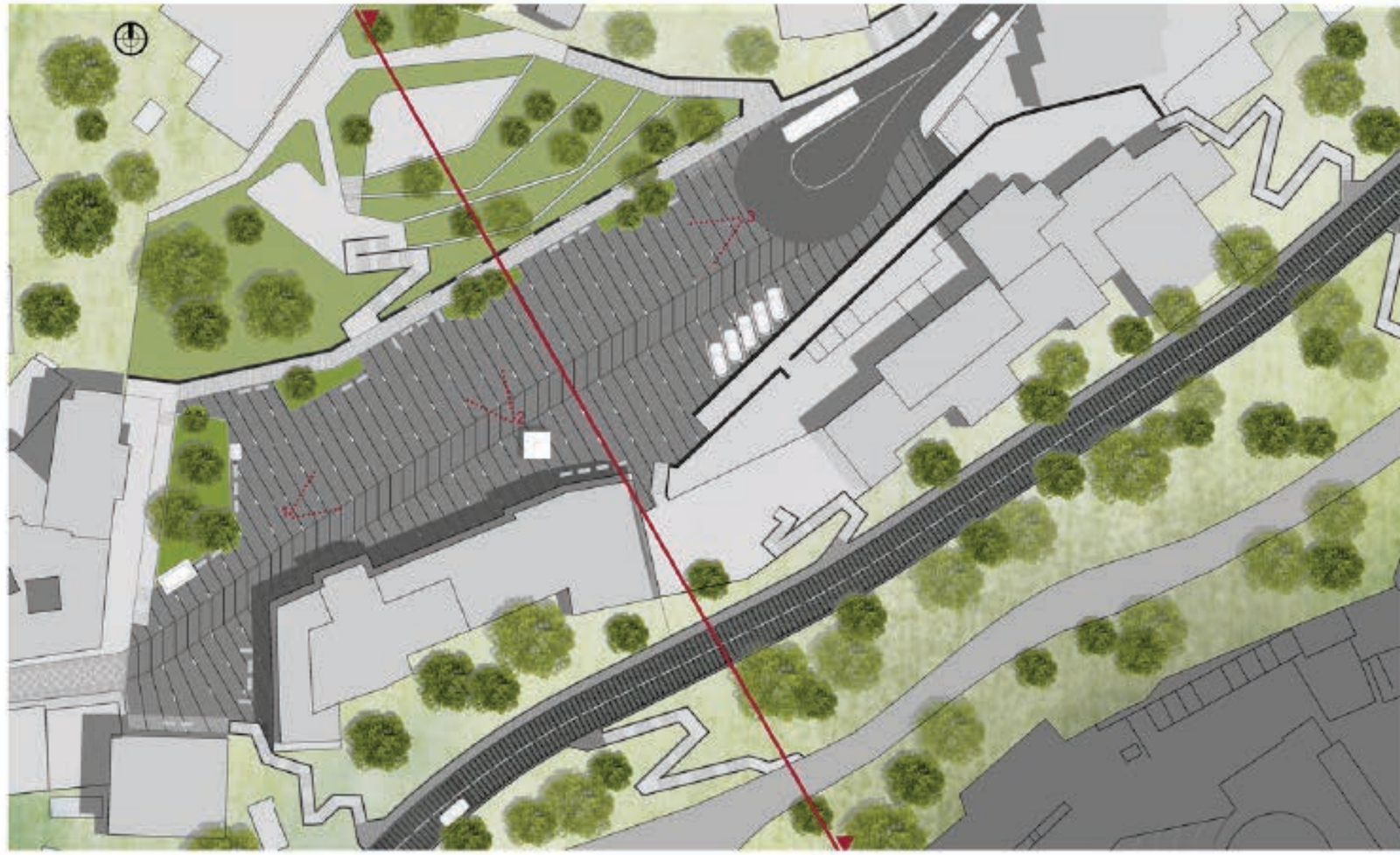
- It doesn't affect the everyday life by changing a lot the habitual directions.

BYPASS ROAD PLAN



- Housing blocks are so tight that only few pedestrian paths can wind among them, and as result the intervention for drafting new roads is difficult and sometimes quite impossible because of the risk it entails.
- Both roads that bring to the old city centre have no constant section, for example the road which links Gjirokastra with national road, passing from "Puntore" quarter , has a variable section from 6-10m depending on the urban and terrain situation.
- Road of "Qafa Pazarit" is part of the Museum Zone, of first category, with a width of 5-6m , high sloped and paved with stone. The circulation of vehicles is very difficult, but above all difficulties, it is the main distribution nod.
- Gjirokastra has alternative roads to get to the uphill dwelling area but in some section they face serious problem. For example quarters of Manalat I and Manalat II are linked to the national road with an asphalt paved road. It becomes narrow, getting deeper in the urban compact dwelling structure till the point of making impossible the interchange of two cars.
- For paving it is usually used the stone pattern, but are many the segments in the historic area that due to many reasons, mainly lack of budget, which are paved with asphalt; breaking in this way the continuity of traditional urban design.

CERCIZ TOPULLI SQUARE / CONNECTING STAIRS AND BYPASS

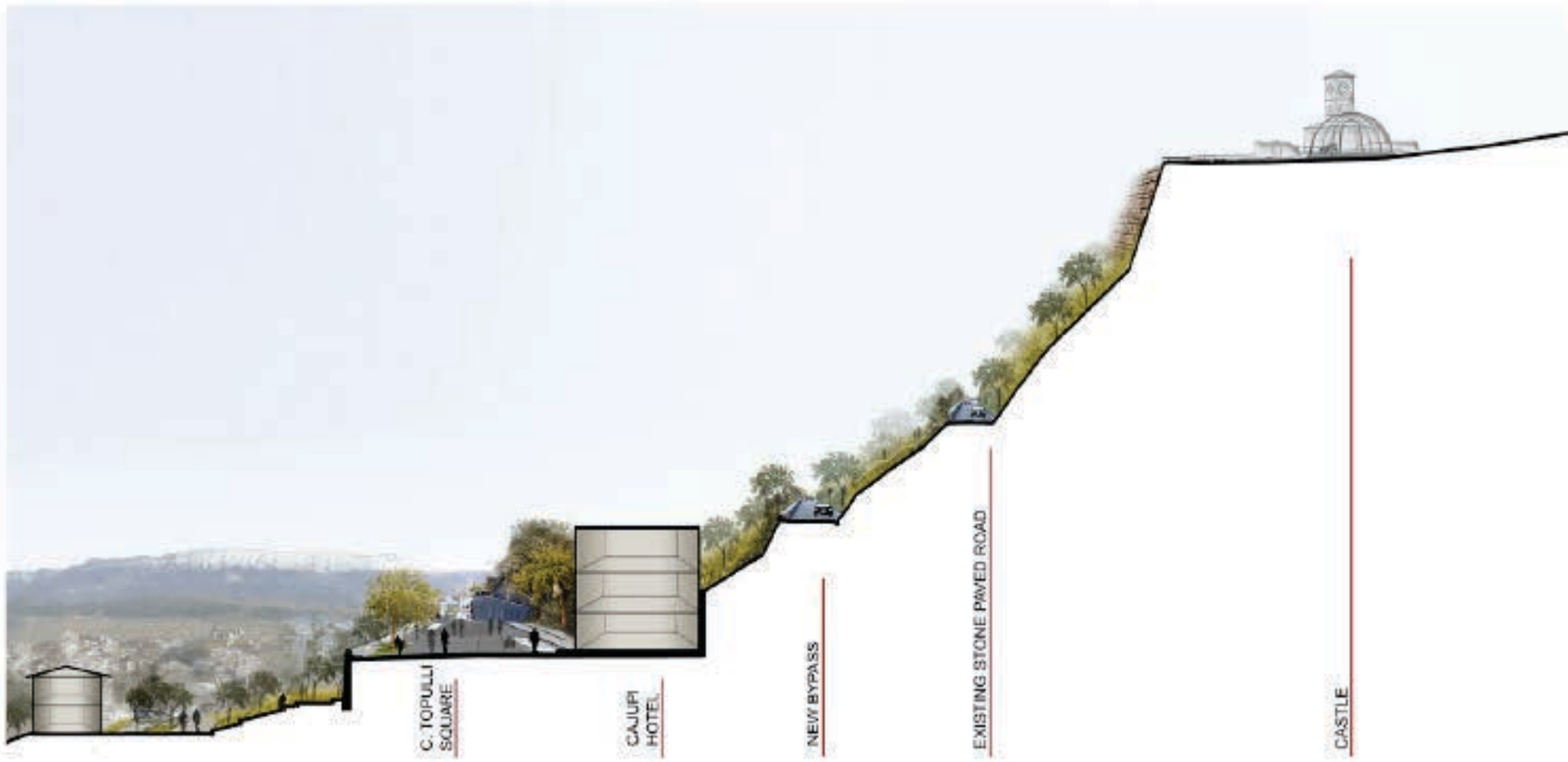


Bypass is important, not as just scenery or a backdrop, but because it links
culture with nature, and past with present.

• This Bypass has many values not all of them tangible; it matters to, and is valued
by, people and provides a context for people's lives.

• It puts emphasis on the whole landscape not just the 'best bits' and applies to all
landscapes everywhere and in any condition – land, natural, rural, urban and peri-urban, outstanding, ordinary and degraded.

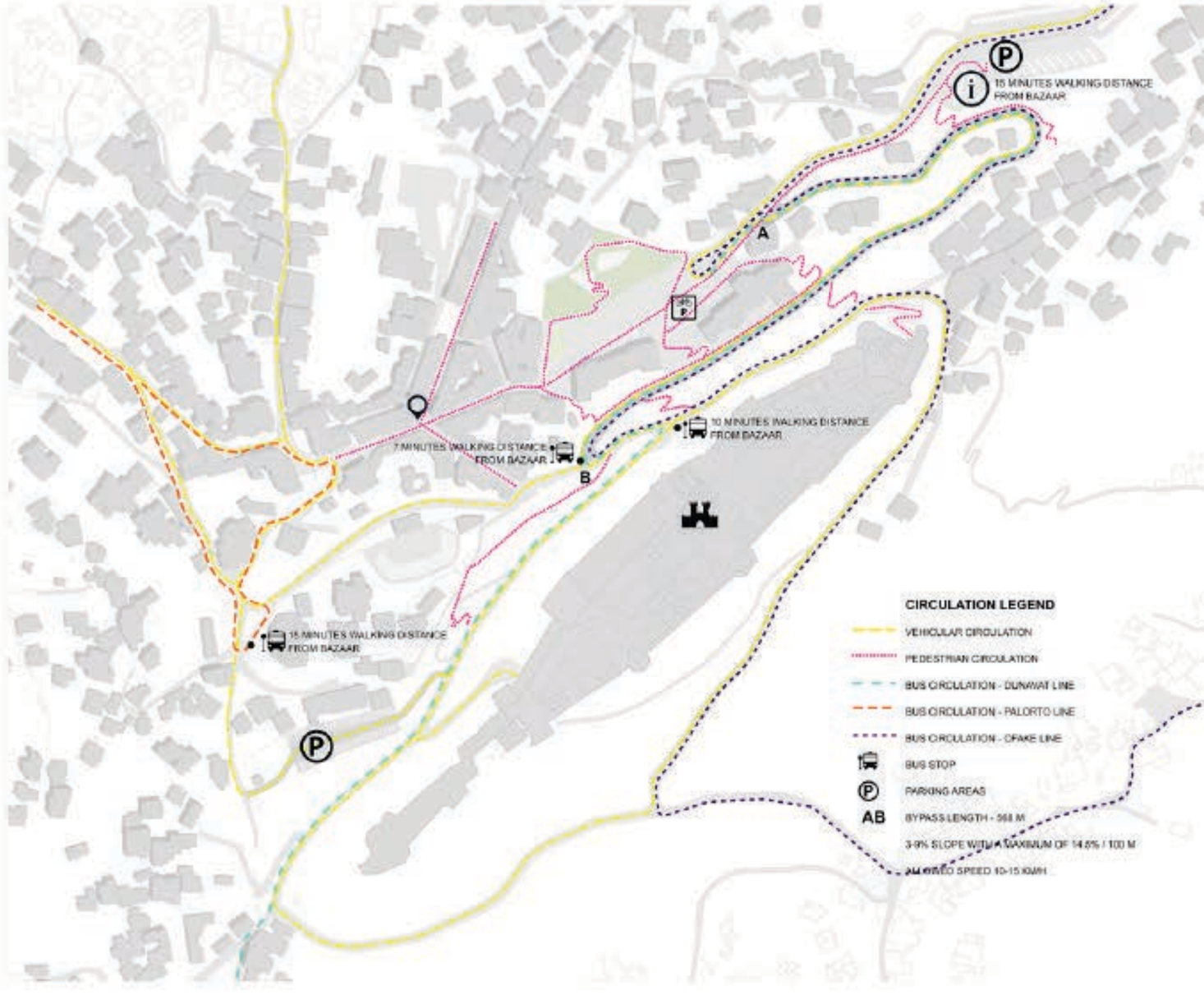
•Allows the circulation of the existing city bus of 20 people, residents cars, tourst's, emergency cars and the small firefighting cars (as suggested by the Report for Mission of Protection for the Heritage Property. Eleni Maistrou 2012 Also to take consider: The fire fighting arrangements in the historic urban zone should be improved;



Project Data:
Length 568m
Crown Width 7.5 m (2 lane X 3.25 m + 1m sidewalk)
Cost 254mln Lekë

The alignment of this axis starts at "Cerciz Topulli" square, by passing in the existing road "Dr.Kalivopuli" for 180m. Since the existing road width is no more than 3.5m, it expands in the left side by using stone walls or concrete walls. The concrete walls will be dressed in decorative stones, in order to preserve the architecture of the city. Furthermore, the alignment deviates through a turning with 15m radius, by avoiding two residential buildings located in the right side of the road alignment. This is one of the most difficult points of the Project, because from one side there are situated two residential buildings and from the other side is located a high steep slope where you can find other residential buildings. In this part of the road, are conceived some solutions that consist in:

- The protection of the upper slope and the residential buildings through the construction of net piles on both sides, or only from the side of the buildings and the upper slope with anchors to guarantee the slope stability after the excavation in a very steep terrain.
- The construction of a cut and cover Tunnel with a length of 100m to avoid the high environmental impact that causes the first solution



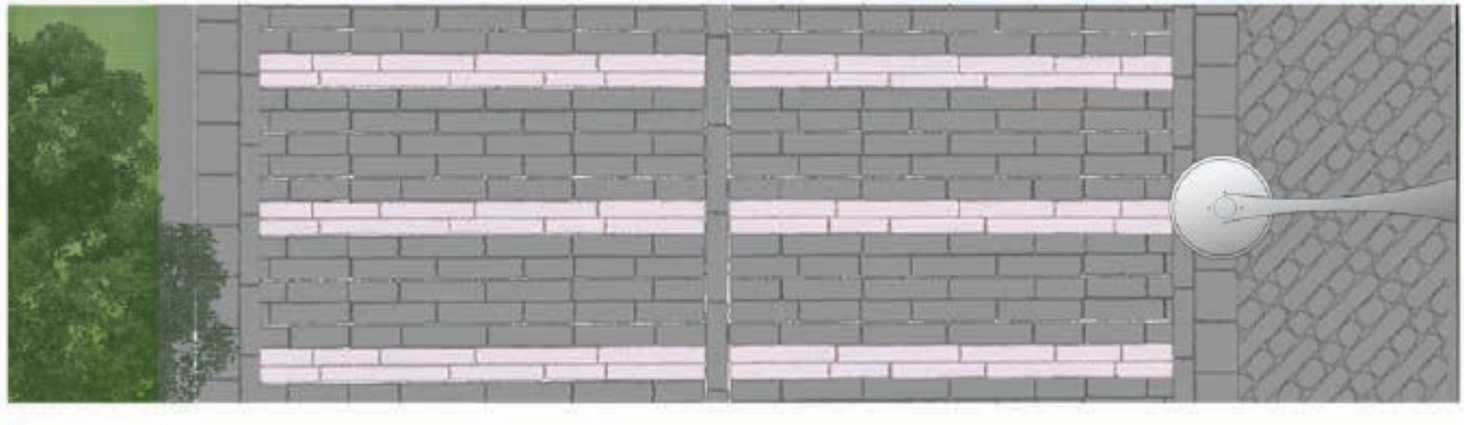
After the turning the alignments starts to gain height, achieving the maximal inclination of the Project (14.5% for a length of 100m). The alignment continues in parallel with "Cerciz Topulli" square, passes behind the Municipality building and "Cajupi" Hotel, only 30m a far from the ending of "Qafa e Pazarit" roads. In "Gjin Bue Shpata" road passes all the vehicle traffic flow to the upper neighborhoods Dunavat I,II; Manalat I,II; Pazar i Vjetër; Cfakë). In this segment, the new road passes in the green area and in very steep slopes. For this reason, it is conceived that the alignment should pass in filling, through the use of reinforced soil walls (green terramesh type) and in the areas where it is required the excavation of the upper slopes in laminated, they will be protected through the use of geosynthetic nets and anchors with a length of 3-5m. Terramesh walls and the protected slopes will be covered in vegetation through the hydro seeding methods. Engineering technique of the terramesh walls system has advantages not only in the technique point of view, due to its flexibility and its adaption with rugged terrain and limited spaces, but also in the esthetic point of view and its interaction with the surrounding landscape. This walls and protected slopes with green vegetated geomat nets are totally integrated with the green area of the slope.

TYPICAL BYPASS CROSS SECTION

BYPASS ILLUSTRATION

The construction of "By Pass" in the proposed axis avoid the circulation of the vehicles in "Cercis Topulli" square and "Qafa e Pazarit" and guarantees the normal flow in the upper neighborhoods (Dunavat I,II; Manalat I,II; Pazar i Vjetër; Cfakë;Partizani) by extending the length of the movement only in 200 meters. Meanwhile, the traffic that passes from "Cerciz Topulli" square to Palorto neighborhood will continue the movement from the exit of "Bypass" to "Shezai Como" street and then to "Ismail Kadare" street. To keep the normal traffic flow to "Palorto" and "Granice" neighborhood, are required some interventions for the widening of a part of the alignment, in a length of 50m as well as the improvement of the turning near "Asim Zeneli" high school (showed in map). Meanwhile, the positions of bus stations that are located at "Cerciz Topulli" square and in to exit of "Qafa e Pazarit" will change very little. By the construction of this axis, the stations will be in the entrance of "Cerciz Topulli" square and in the exit of "Qafa e Pazarit" only 30m away from the actual one. This ensures a natural movement of people in "Qafa e Pazarit", by giving it a greater focus as a central point of the city (and not isolating it). This is one of the biggest advantages of this axis compared to the proposed axis in Option IV, which removes the natural movement of people, by removing the circulation of vehicles in this area. The movement of people from the upper neighborhoods to "Qafa e Pazarit" in Option IV, could be realized on foot, or in a vehicle with a unique reciprocation destination.

BYPASS STONE PAVEMENT ILLUSTRATION



Bill of Quantities

Object: "Qafa e Pazarit" By-Pass, Gjirokastër (2 x3.25 m lanes with 1.0m sidewalk)

No.	Pay Item No.	Description of Works	Unit	Quantity	Rate	Amount (LEKE)
		Site Clearance				395,265.67
		Road Works				41,472,704.00
		Retaining walls				94,268,581.27
		Slope Stabilization Works				28,635,000.00
		Pipe Culverts Ø600 mm, 3 pieces				1,130,702.00
		Electric Works				7,547,824.37
		Traffic signs				97,820.00
		Other works				2,676,000.00
					Shuma	176,223,897.30
					Fondi Rezerve 20 %	35,244,779.46
					Shuma	211,468,676.76
					T.V.SH-ja 20 %	42,293,735.35
					GRAND TOTALI	**253,762,412.11**

LIST OF ALL MEMBERS OF THE DESIGN TEAM AND THEIR ROLES

Nr	Emer Mbiemer	Kualifikimi	Detyra per Projektin	Vite ekperince	Menyra e Kontraktimit
1	**Altin PREMTI**	Arkitekt	Drejtues i ekipit/ Arkitekt/ Arkitekt Peisazhi/ Urbanist	15	Ortak & Administrator i Atelier 4
2	**Alban EFTHIMI**	Arkitekt	Arkitekt/ Urbanist/ Ekspert Restaurimesh	15	Ortak & Administrator i Atelier 4
3	**Maurizio CERRI**	Inxh. Transporti	Inxhinier projektim Rrugesh	27	Marreveshje Bashkepunimi
4	**Aurel XHUMBI**	Inxh. Ndertimi Strukturist	Inxhinier projektim Rrugesh	15	Marreveshje Bashkepunimi
5	**Ylli GJONI**	Inxh. Ndertimi Strukturist	Inxhinier Transporti	16	Marreveshje Bashkepunimi
6	**Shpresa Prifti**	Arkitekte	Arkitekte Resaturatore	41	Marreveshje Bashkepunimi

DETAILED DESIGN OF THE RECONSTRUCTION OF THE COURT OF FIRST INSTANCE, GJIROKASTRA, ALBANIA

DETAILED RESTORATION DESIGN OF THE MARUBI PHOTOTEQUE BUILDING AND ITS ADAPTATION FOR MUSEUM PURPOSES. LOCATION: SHKODRA, ALBANIA

PREPARATION OF THE DESIGN AND TENDER DOSSIER REGARDING THE INFRASTRUCTURE, LANDSCAPE AND RESTORATION WORKS IN HISTORICAL HERITAGE SITES

RECONSTRUCTION AND EXTENTION OF THE OLD „OFFICER'S HOUSE" ADAPTING IT IN TO „EQEREM CABEJ" UNIVERSITY, GJIROKASTER

DETAILED DESIGN AND SUPEVISION OF CONSTRUCTION WORKS FOR THE NEW HEADQUARTERS AND FOUR NEW TELEVISION STUDIOS FOR THE NATIONAL TELEVISION „TOP CHANNEL"

URBAN PLANS AND REGULATIONS OF FOUR CITIES- DURRES, SHKODRA, VLORA AND KAMZA

DETAILED DESIGN FOR THE RECONSTRUCTION OF THE NEW BAZAAR AND REVIALISATION OF „AVNI RUSTEMI" SQUARE IN TIRANA.
RESTORATION DESIGN OF THE MEAT, FRUITS AND VEGETABLES MARKET,

DETAILED DESIGN OF THE RESIDENTIAL AND RETAIL „AMBASADOR 3"

INTERNATIONAL URBAN DESIGN COMPETITION_FIRST PRIZE_ SOUTHERN COAST STRIP AND SURROUNDING VILLAS-RIVIERA / NATIONAL PARK OF LLOGARA /RESERVE OF KARABURUN / WETLAND AREA/ THE LAGOON OF ORIKUM

DETAILED DESIGN FOR THE RECONSTRUCTION AND EXTENTION OF "LORO BORIÇI" STADIUM

URBAN STUDY AND DESIGN OF THE TOURISTIC COMPLEX "GREEN COAST RESORT"

RECONSTRUCTION OF KRUJA CENTER SQUARE

DETAILED ARCHITECTURAL, ENGINEERING AND INFRASTRUCTURAL DESIGN FOR THE CONSTRUCTION OF NEW REGIONAL HOSPITAL OF FIER

DETAILED DESIGN OF THE NEW MASTER PLAN OF THE APOLLONIA ARCHEOLOGICAL PARK AND RESTORATION OF THE MONASTERY COMPLEX OF SAINT MARY

RECONSTRUCTION OF BULEVARD „18 SHTATORI", GJIROKASTRA