

# WALKING TOUR

## Green Infrastructure, Heritage and the Urban Fabric of Samarkand

*Site visit for GPSC City Academy  
A structured urban learning walk for multi-country  
planning practitioners  
2<sup>nd</sup> June 2026*

Charles Norman,  
World Bank Tashkent

Urban, Resilience and Land  
Sector



**THE WORLD BANK**  
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Global Platform for Sustainable Cities  
Samarkand, Uzbekistan

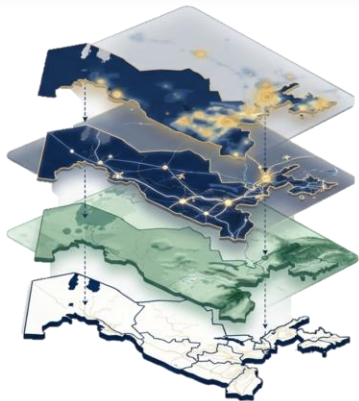


# About your guides

## SITE VISIT PRIMER

### 01 Charles

- Territorial Development Consultant
- Planning policy, municipal climate policy, resilience and inclusion.
- Working in Uzbekistan for almost 4 years



### 02 Fakhridin

- Urban Planner
- Results-based Financing
- Ministry of Economy and Finance of Uzbekistan/ World Bank Project Coordination Office

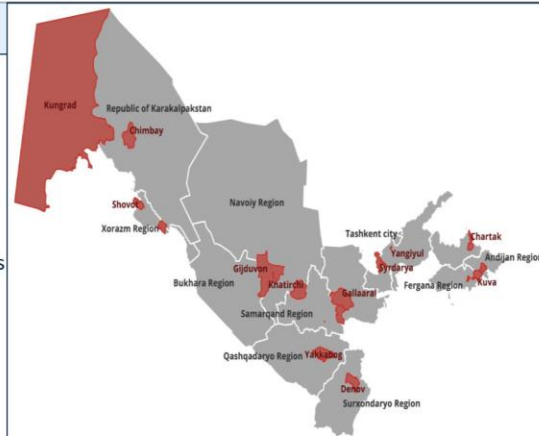
### 03 Umidjon

- Urban Planner
- Samarkand Region Specialist
- Ministry of Economy and Finance of Uzbekistan/ World Bank Project Coordination Office

### 04 What We Do: Liveable and Productive Cities

Supporting local authorities to plan and implement urban infrastructure strategically

Investments targeted	Duration	Geographic coverage	District / City
Urban infrastructure to support local economic development: (i) Local Economic Development; (ii) Roads and Transportation; (iii) Water and Sanitation; (iv) Compact and Resilient Urban Expansion; (v) Social Infrastructure and Amenities.	2025-2030	16 districts in 13 regions	<ul style="list-style-type: none"> <li>Kungrad District</li> <li>Chimbay District</li> <li>Asaka District</li> <li>Gijduvon District</li> <li>Gallaara! District</li> <li>Yakkabog District</li> <li>Khatirchi District</li> <li>Chartak District</li> <li>Bulungur District</li> <li>Syrdarya District</li> <li>Denov District</li> <li>Yangiyul City</li> <li>Kuva District</li> <li>Margilan City</li> <li>Shoyot District</li> <li>Khazorasp District</li> </ul>

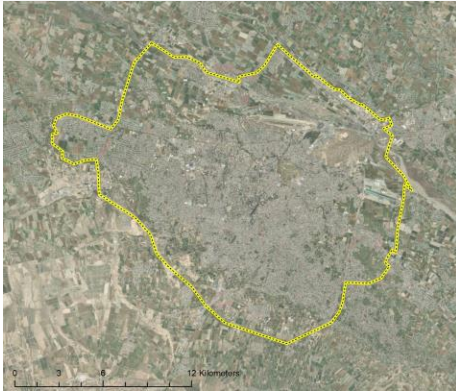


# Objectives of the tour

## SITE VISIT PRIMER

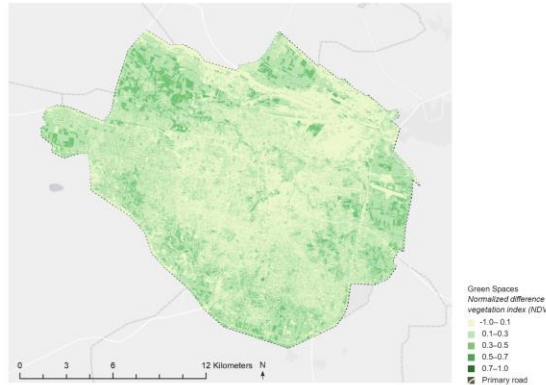
### 01 See Heritage as a System

Samarkand's urban form contains 2,500 years of infrastructure and planning decisions. We will notice monuments, bazaars, housing, and canals, which are all components of a large urban system.



### 02 Trace Green-Blue Threads

Each stop shows both evidence and opportunities for green-blue infrastructure, and we will ask where heritage can be recovered for contemporary sustainability.

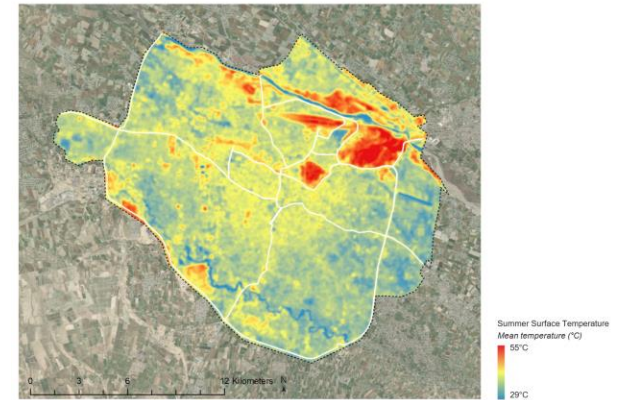


Map data from European Space Agency 2020. "Normalized Difference Vegetation Index"

NDVI-based measures do not account for the proximity and spatial arrangement of green spaces within road links. They also do not address the vertical dimension and density of green urban building.

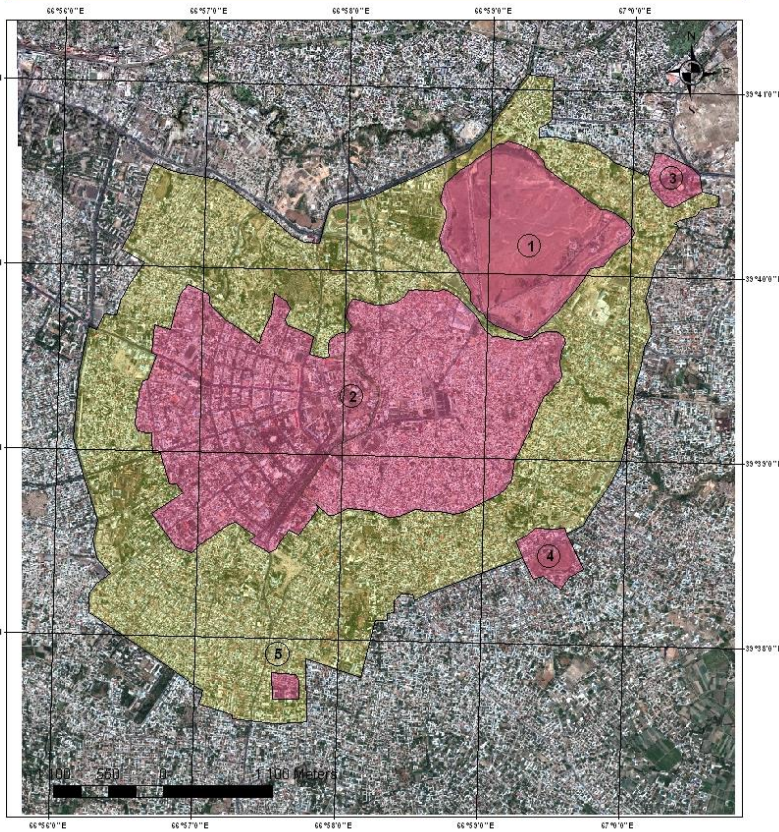
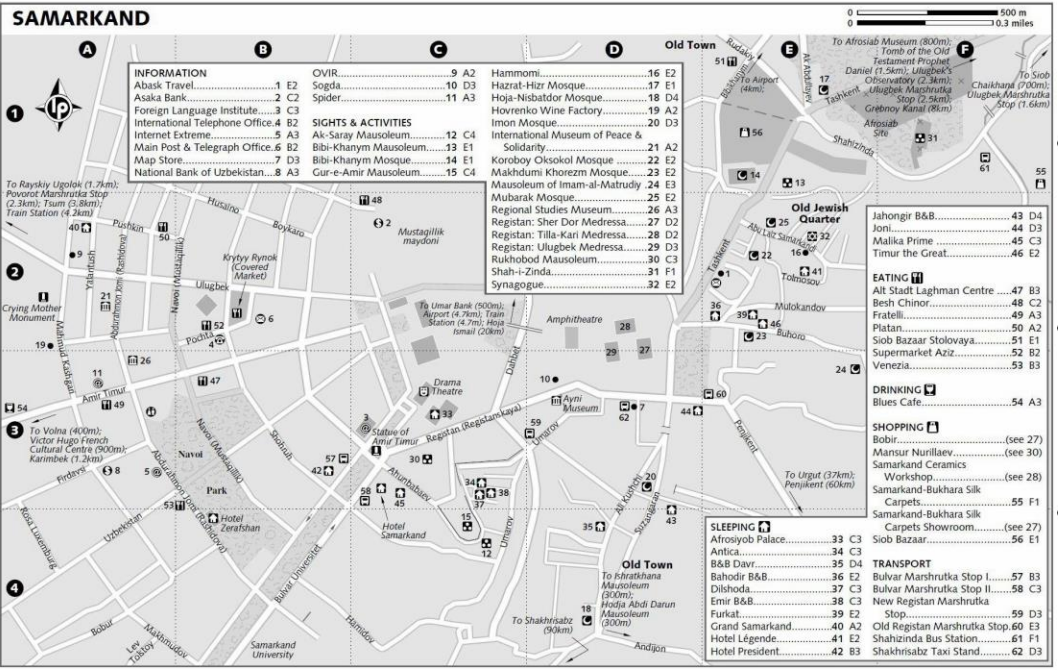
### 03 Identify Planning Leverage Points

We will finish by looking at more recent changes, and the opportunities to act on connected green infrastructure in Samarkand.



The findings, interpretations, and conclusions expressed in this City Scan do not necessarily reflect the views of the World Bank, the Executive Directors of the World Bank, or the governments they represent. Given that the data included in this work are derived from global sources, the World Bank does not guarantee its accuracy. This document was produced with the financial assistance of the European Union. The views expressed herein can in no way be taken to reflect the official opinion of the European Union

# Heritage in Samarkand



1. Afrosiab archeological area (229 ha)
2. Medieval Timurid and European cities (841,5 ha)
3. Ulugh-Bek's Observatory (19,5 ha)
4. The ensembles of Abdi-Darum and Ishrat-Khona (26,3 ha)
5. Namazgoh mosque (6,7 ha)

AREA OF THE WORLD HERITAGE PROPERTY (1123 ha)  
 BUFFER ZONE OF THE WORLD HERITAGE PROPERTY (1369 ha)

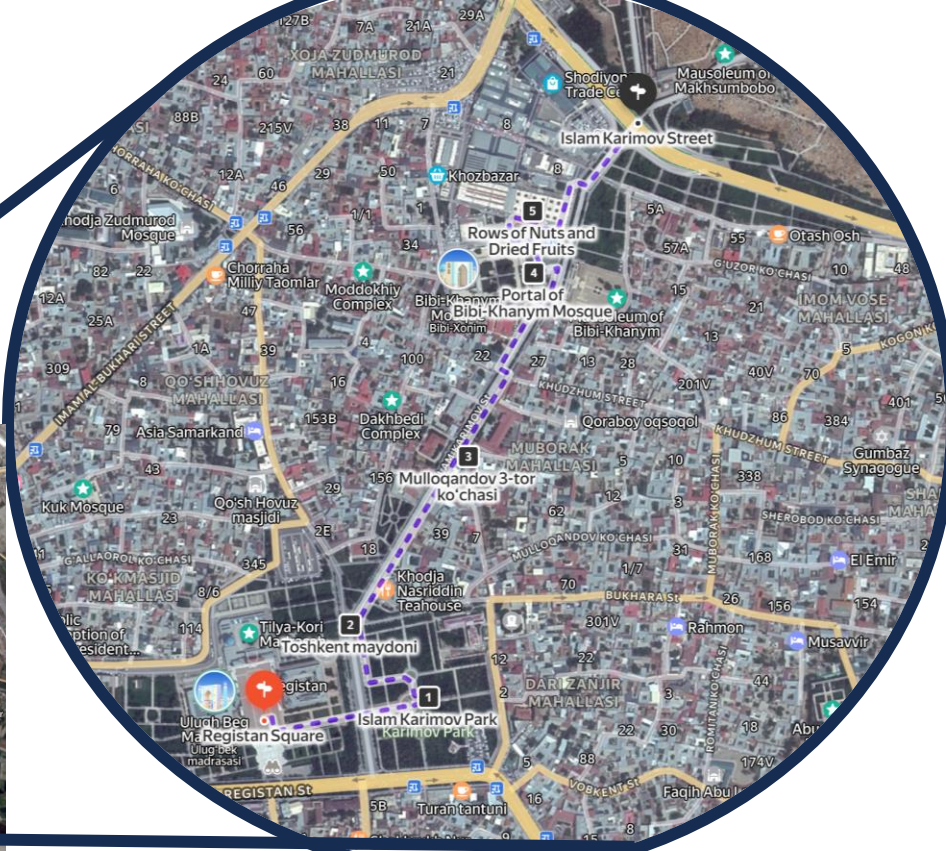
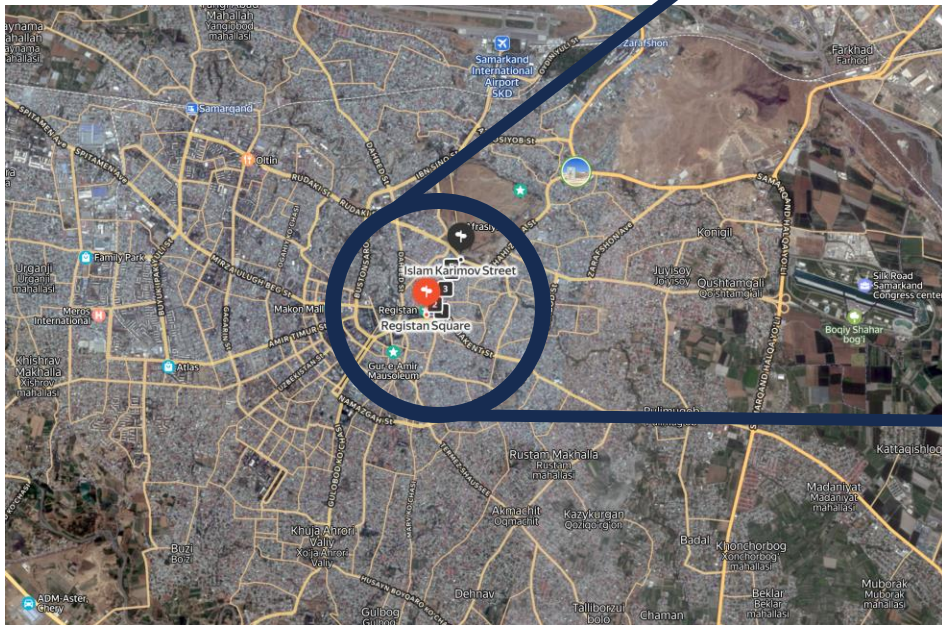
Principle Scientific-Production Department for the preservation and utilization of objects of cultural heritages of the Ministry of Culture and Sport of the Republic of Uzbekistan, 2011

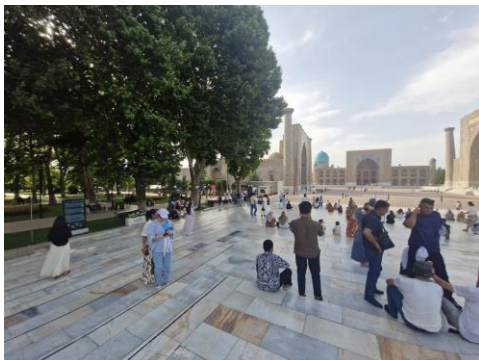
PROJECTED UTM ZONE 42, WGS 1984

# Our Route at a Glance

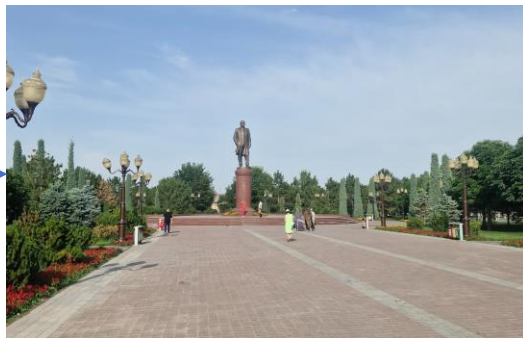
7 stops · ~1.7km north from Registan to Afrosiyab

Scan QR code for link to Yandex maps route





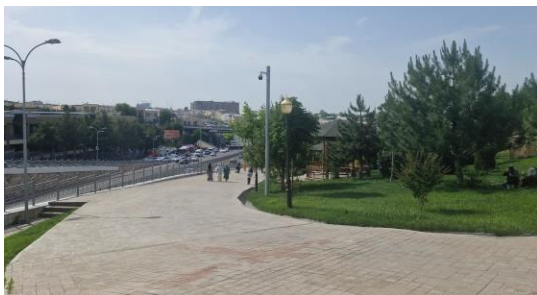
**STOP 1: Registan (Departure Point)**



**STOP 2: The Adjacent Garden / Timurid Garden Tradition**



**STOP 3: Tourism Street  
(Tashkentskaya/ Karimov)**



**STOP 7: Afrosiyab (View from the Bridge / Approach)**



**STOP 5: Bibi Khanum Mosque**



**STOP 4: Mahalla Behind the Tourism Street**

**STOP 6: Siab Bazaar**

# Four Stages of Urban Layering

## HISTORICAL CONTEXT

~500 BCE – 1220 CE

### Afrosiyab

- Pre-Islamic city of ~220 ha; one of Central Asia's great urban centres
- Destroyed in Mongol invasion of 1220; plateau left largely uninhabited
- Survived as archaeological zone



14th – 15th century

### Timurid Samarkand

- Tamerlane's capital: mosques, madrassas, mausoleums, caravanserais
- Extensive chahar-bagh network; ariq canals; designed urban ecology



20th century

### Soviet Restructuring

- Grand clearances around heritage monuments for monumental legibility
- Loss of surrounding bazaars, caravanserais, mahalla urban fabric
- Tram, canal corridor, and grid streets as Soviet infrastructure legacy



Post-2016 / Present

### Heritage Tourism Era

- UNESCO listing, visitor growth, corridor formalisation and paving
- Heritage sites central to economy but isolated from urban life
- GI largely absent from restoration and tourism investment programmes



# The Timurid Blueprint

Stops 1 & 2 | Registan · Timurid Garden



Fig. 7. The ArcGIS map of the gardens (green areas) and boulevard “Hiabans” (green lines) of Amir Timur and his descendants. The locations, sizes, and areas of the gardens correspond to the descriptions of medieval historians and archival notes of archaeological excavations by Soviet scientists.

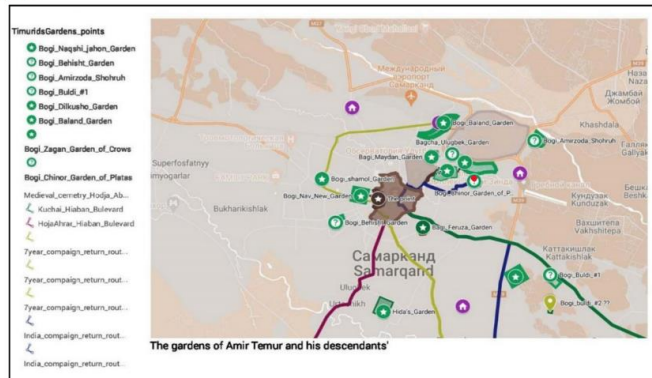


Fig. 8. The map of routes of Amir Timur on his way back from victorious campaigns. He preferred to have rest in specially devoted to the victory gardens, ordered by him before going to campaign. “Bagi Chinar” garden is marked with red dot.

GEF Global Platform for Sustainable Cities | Samarkand Site Visit



## Water as Infrastructure

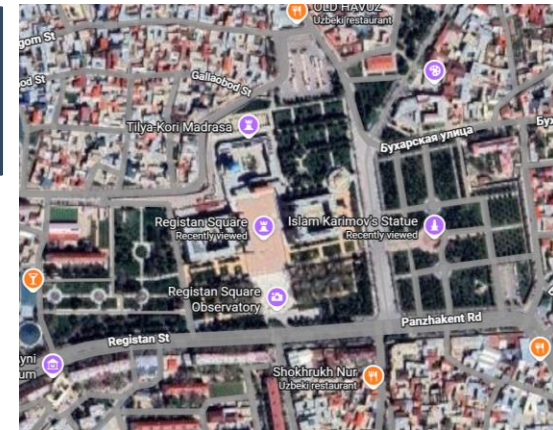
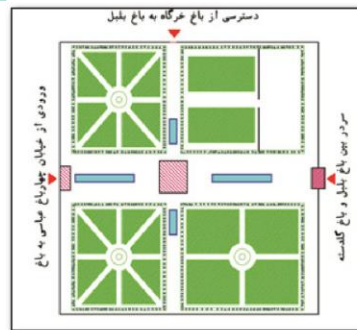
The Dargom and Siab canal systems, gravity-fed from the Zerafshan River, delivered water through the garden network as both irrigation and urban cooling infrastructure.

## Shade as Climate Control

Dense canopy cover, axial shaded pathways, and enclosed garden quadrants produced micro-climatic cooling well below ambient air temperatures in a continental semi-arid zone.

## Green at City Scale

Dozens of named chahar-bagh complexes within and around Samarkand's walls.



All Photos: Creative Commons Official Use Only

# Tourism, Public Realm & the Thermal Challenge

STOPS 1 & 3- Registan Square and Tashkentskaya Square

## Urban Fabric

### PRESENT

- Visual coherence and pedestrian priority (partial)
- Artisan retail, souvenir shops, and food offer
- Paving and façade renovation investment
- Formalised tourism economy infrastructure
- **The separation of urban fabric and heritage sites to support heritage tourism today- but what remains from the fabric of the city?**

## Greening

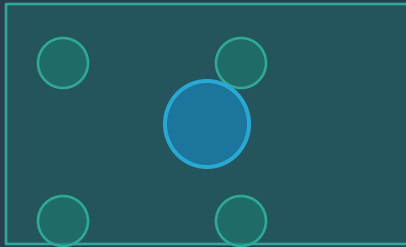
- Inside the madrasas are green courtyards which protect from the sun.
- However, Registan Square now fully paved.
- Tree cover, shade, and canopy in places along the street
- **Lack of climate-resilient design logic, but large co-benefits**



# Mahalla-Scale Resilience & Vernacular Climate Design

Stops 4 & 5 | Mahalla behind Tashkentskaya · Bibi Khanum Mosque

Shaded courtyard



HOVLI (Courtyard House)

## Mahalla as Social Infrastructure

Self-governing quarter built around mosque, communal space, and dense mutual-obligation networks

## Courtyard Ecology at Scale

The hovli is small in isolation, collectively transformative. Vine pergolas, fruit trees, and inward-facing shading deliver evapotranspiration cooling at neighbourhood scale.

## Bibi Khanum: Climate Engineering

Monumental pishtaq shade, double-shell dome insulation, glazed tile reflectivity, and courtyard thermal buffering



# Tourism, Heritage & Local Economic Systems

STOPS 6 & Overall- Siab Bazaar

## Local Economic Systems

- Daily market serving both local residents and regional producers, and tourists
- Aggregates agricultural produce from across the Zerafshan valley and hinterland
- Non bread, dried fruit, spice, and dairy: products of an agro-ecological landscape
- Value chain is local by design: city linked to smallholder producers
- Social capital embedded in commercial exchange — credit, information, community
- Canopy structures and tree cover create a comfortable microclimate



## Tourism Infrastructure

- Rapid expansion post-UNESCO listing
- Investment concentrated on Tashkentskaya corridor: paving, façades, formalisation
- Produces a coherent tourism offer
- Dependency on high-season international footfall, but local tourism supports other facilities
- Rising land values
- Formalisation pressure gradually restructuring Siab toward souvenir and hospitality
- Heritage assets generate significant value

# Green-Blue Corridor Opportunities

STOPS 6 & 7 | SIAB BAZAAR ·  
AFROSIYAB

STOP 6-7

## Siab Canal–Tram Corridor

The canal-tram corridor is a multi-functional urban opportunity hiding in Soviet-era infrastructure. Water and transit occupy a linear green axis that could serve as:

- Active travel and pedestrian spine
- Ecological connectivity corridor (north-south)
- Flood routing and urban stormwater management
- Urban cooling through combined canopy and water surface
- Linkage from bazaar precinct to Afrosiyab plateau

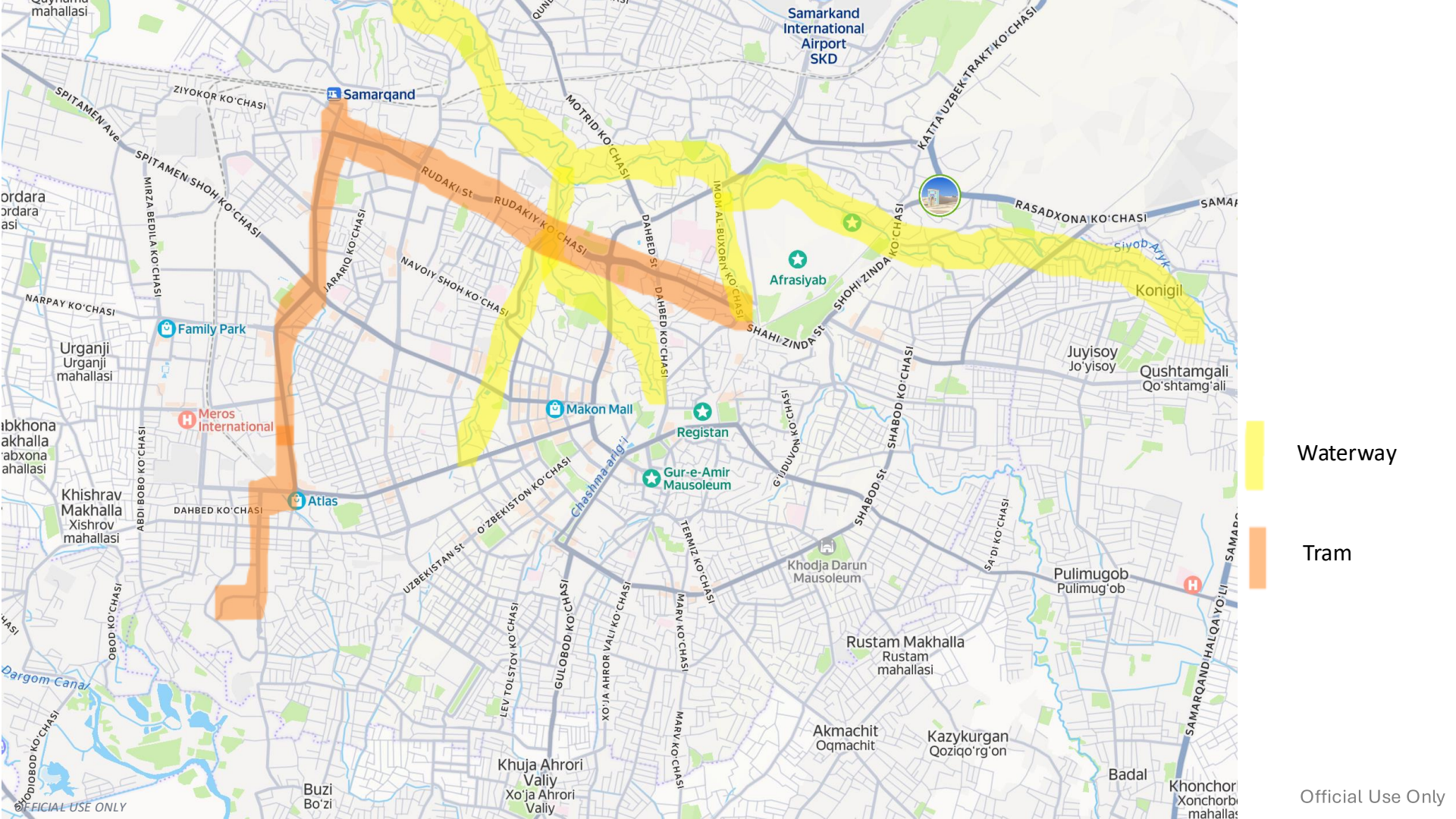


STOP 7

## Afrosiyab Plateau

220 hectares of protected, largely unbuilt plateau a future green infrastructure opportunity in Uzbekistan's second city:

- Archaeological protection means a construction-free land bank
- Panoramic views over the Zerafshan valley and historic core
- Native dryland planting and biodiversity corridor potential
- Urban heat island mitigation at city scale
- Tourism circuit extension connecting heritage and landscape



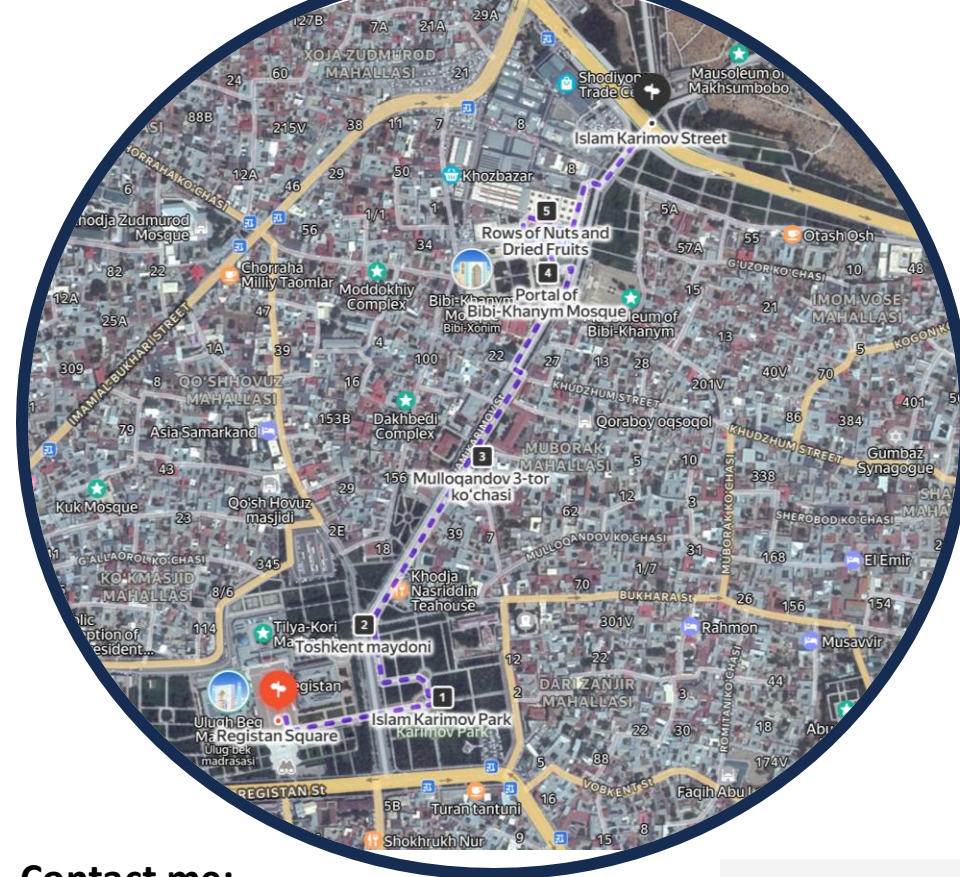
Waterway

Tram

Official Use Only

# Practical Notes

- 7 stops · ~1.7km north from Registan to Afrosiyab
- Scan QR code for link to Yandex maps route
- Please inform me if there are any mobility issues, or step free access is required. The tour will require you to spend significant time on your feet.
- We will only have ~10 minutes at each stop
- We will not enter any of the monuments
  - They are ticketed and will take too long!
  - Please feel free to do this in your own time
- Please feel free to ask any questions to me and my colleagues, whilst walking or privately



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